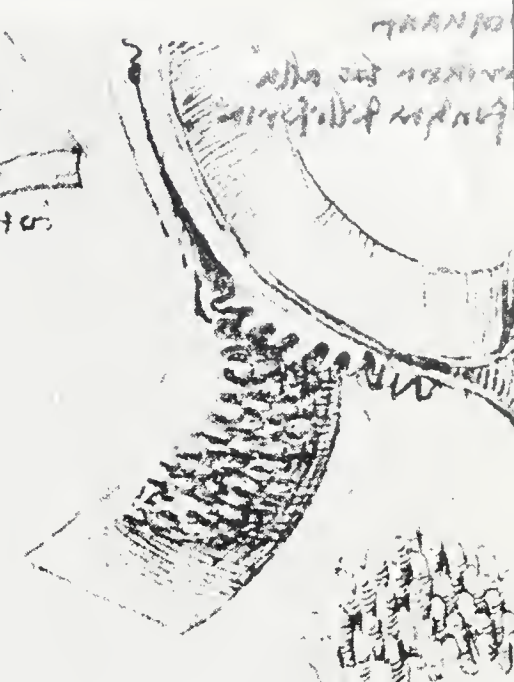
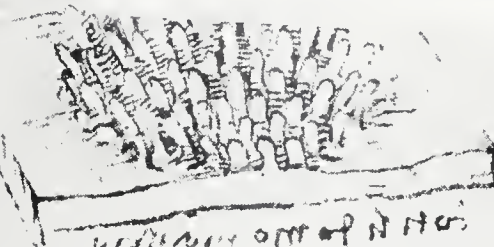
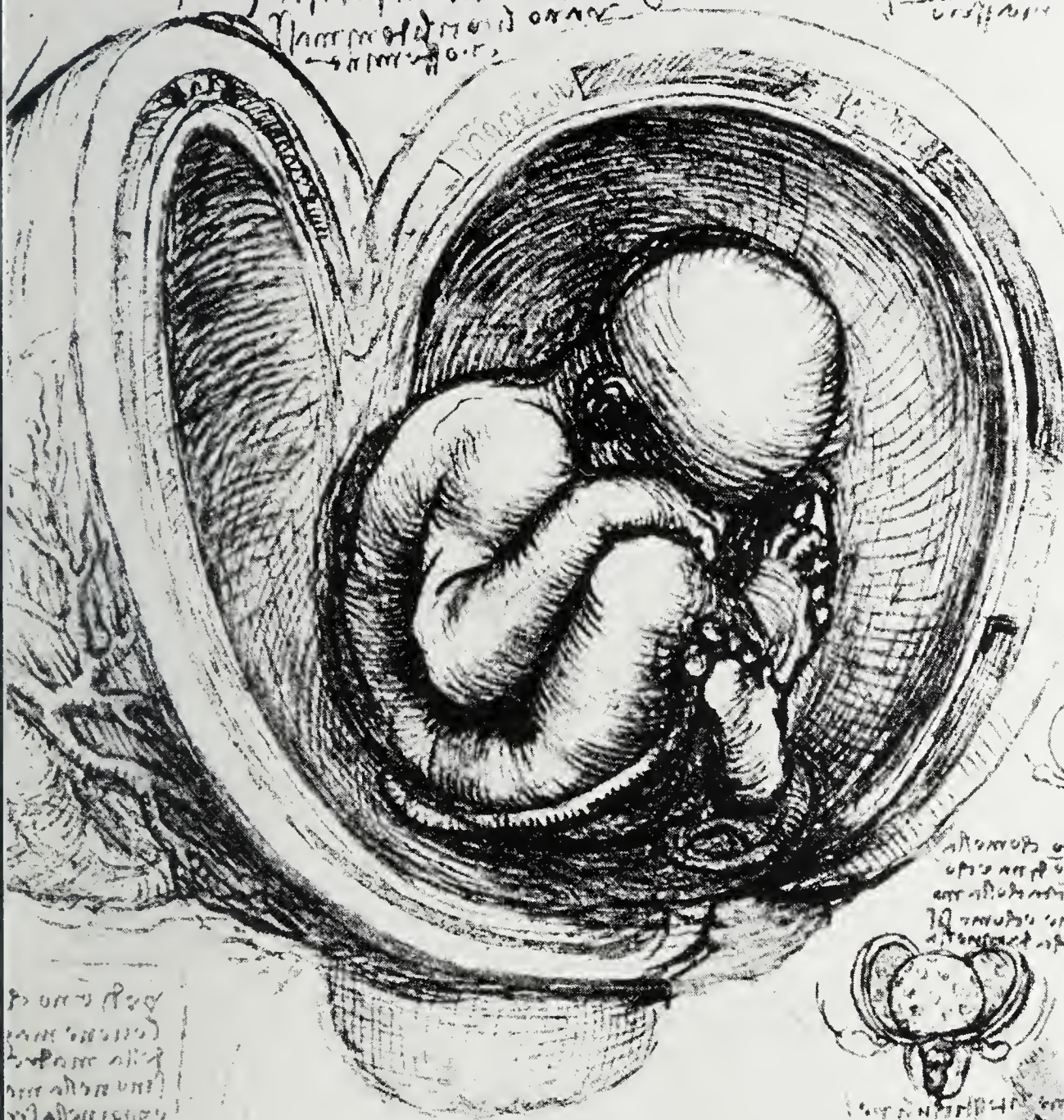


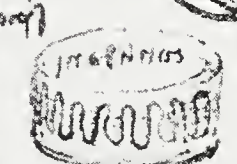
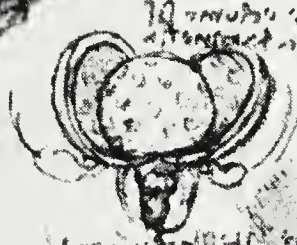
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GUIDELINES FOR PUBLICATION

- 1) All articles intended for publication should be submitted to the editors before the deadline which is usually six weeks before the release of the Journal.
- 2) Submitted articles should be typed (or legibly printed) double-spaced, single-sided on paper 8½" x 11" (letter size) and they should not be more than 15 to 20 pages (3000 to 4000 words).
- 3) Illustrations, graphs, diagrams and figures should be put on a separate sheet and identified by Arabic numerals. A list of explanatory legends for all the figures and diagrams should be put on another sheet. Do not write on the back of photographs.
- 4) References should be checked with the original sources, designated by Arabic numerals in the text, numbered in order of appearance and put on a separate sheet. Each periodical reference should include in order: the author's name and initials, title of the article, Journal name, volume number, page number and year (eg., 1 Rosen HJ: Lumbar intervertebral disc surgery: review of 300 cases *Can Med Assoc J.*, 101: 317, 1969)
- 5) The editors reserve the right to make such editorial changes as are deemed necessary to ensure correctness of grammar and spelling, clarification of statements and conformity to Journal style
- 6) Acceptance for publication is subject to the understanding that such material is submitted solely to the Journal and will not be reprinted without the consent of both the editors and author

To Opt Or Not To Opt

Roman Czudjowycz 8T0

This article discusses practical aspects of medicine with which all of us are presently or will soon be concerned.

Everyone has either heard or read about the recent 'exodus' of Ontario physicians from the Ontario Health Insurance Plan (OHIP). Opinions on this matter are many and varied, ranging from the Minister of Health's view that this is only a temporary phenomenon and will not undermine the availability of medicare, to the view of the Ontario Federation of Labour, the Canadian Union of Public Employees (CUPE), the United Auto Workers (UAW) and of course the New Democratic Party, that opting out of the Plan by doctors is tantamount to a strike, threatens the "universal accessibility" of medical care and must be stopped. These three unions have gone further and have proposed that their members boycott such doctors and that the Ontario Government legislate them back into the Plan. The UAW, in their recent contract negotiations, have even pressured their employers to reimburse their members for opted-out doctors' fees. The matter is currently a hot political issue causing anger and resentment in some circles and yet indifference in others. Any actions taken by government could have serious ramifications for all of us as future physicians.

In February of 1979, 17.9% of Ontario's 11,800 physicians were opted out, compared to 16.5% in December 1978 and 10.9% in April 1978. A survey published by the Medical Post in January of this year

predicted that the number of opted-out doctors in Ontario could reach as high as 50%. Why, then, are Ontario physicians opting out?

On the surface, being in OHIP would seem like a good idea. You as a physician can see your patients, one after another, submit the appropriate paper work to the Plan and receive one lump sum payment every month. There are no collection expenses, bad debts, and best of all, you do not have to perform that despicable and distasteful task of talking "money" with your patients. A growing number of physicians in the province have decided against this method of payment for a number of reasons. I will try to outline them in this paper.

Money

It would be very difficult to deny that this factor ranks high on the list of reasons for opting out. An opted out doctor **may** charge his patients up to 43% more than the OHIP Schedule of Benefits pays for a particular service. I would emphasize "**may**". This 43% is the difference between what the Ontario Medical Association thinks doctors' services are worth (as embodied in the OMA Schedule of Fees) and what the Ministry of Health thinks it can afford to pay. The patient is forced to pay the difference. Some representative examples are contained in Table I.

Why haven't doctors exercised their option to opt out earlier? To answer this requires a short history of the formation of OHIP. In October 1969, Ontario entered a Federal Medicare Scheme and agreed to pay 90% of the OMA Fee Schedule. Most doctors were content with this since pre-medicare insurance used this formula. In April of 1972, when the Ontario Health Insurance Act was proclaimed law, OHIP was born, and for convenience, the Government decided initially to opt all Ontario physicians into the Plan, while leaving them the option to opt out on request. To the delight of the planners in the Ministry of Health, less than 10% decided to exercise this option at that time. The reasons were quite simple. The Plan reimbursed the physician for 90% of the OMA Schedule of Fees, as full payment. The rationale was that this was a reasonable amount to withhold as a fee for administration which the doctor would pay out anyway if he had to collect individual accounts from his patients. Furthermore, a doctor who opted out of the Plan could only charge up to the full OMA fee unless it was explained to each patient beforehand how much a particular service would cost them. A sign posted in the office was considered insufficient notification. Thus opting out was made economically and procedurally unattractive, since the cost of bill collecting would range from 10 - 15% and to charge more than the OMA rate would mean that the doctor or his staff would have to take time to explain the fee beforehand for every service con-

templated. It was simply not worth it.

Then in 1978 the OMA, influenced by much discontent within the profession, formed a Schedule of Fees that reflected the value placed on their services by a committee of physicians from across the province. This fee schedule was, on average, 43% above that compiled by the Ministry of Health. It thus became economically sensible to opt out because even if collection expenses amounted to 15%, a gain of up to 28% could still be incurred by leaving the Plan. As long as a doctor did not charge more than the OMA fee, he did not have to give the patient a price before each service.

The final factor in the recent flight

from OHIP by a number of physicians has been the lifting of the Anti-Inflation Board guidelines which applied to a large number of doctors until December, 1978.

What is the justification for the current 43% difference between what the profession feels is adequate compensation and what the government is willing to pay? There are many factors involved but I shall concentrate on the important ones.

Table II shows the changes in the Consumer Price Index (CPI), the Wage Salaries Index (WSI) and Ontario physicians' income since 1971. The WSI is a measure of wage increases in the private sector. This includes employees in all industries ex-

cept agriculture, fishing, trapping, religious organizations and certain public employees (education, health and welfare, defence, civil servants).

The conclusion is quite obvious. Despite the claims of labour to the contrary, the average non-government employee in Ontario has coped with inflation quite comfortably since 1971. In contrast, Ontario doctors' purchasing power has fallen 36% behind the rate of inflation and by 44% relative to the gains of the WSI.

Physicians have traditionally compared themselves with other fee for service professionals. Table III shows the indexed changes in net incomes of some other Ontario professionals since 1971.

Table III speaks for itself. Physicians have been the only professional group to experience an actual decline in purchasing power.

How do Ontario physicians compare with other Canadian counterparts? As can be seen, in Table IV, Ontario doctors had the third smallest increase (16.9%) in net income between 1971 and 1976. They moved from being tied for second place in 1971 to fifth place by 1975. This is a province that by any economic standards is the richest in the country, with a Gross Provincial Product 40% of that of Canada as a whole. In fact, the average Ontario wage earner in 1978 was tops, earning 37% more (based on the Industrial Composite) than his average Canadian counterpart. Thus, in Ontario, there seems to be this unique paradox where workers are paid more while doctors are paid less than anywhere else in the country.

Table I

	OMA	OHIP
Standard Office Visit	\$11	\$7.70
House Call	21	14.65
Appendectomy (Surgeon)	190	132.55
Total Obstetrical Care (GP)	300	210.00

Table II

	CPI (Canada)	WSI (Ontario)	Doctors (Ontario)
1971	100	100	100
1972	104.8	108.3	101
1973	112.7	115.8	103.3
1974	125.0	126.8	105.8
1975	138.5	143.2	108.9
1976	148.9	159.9	116.9
1977	160.8	174.4	122.6 est
1978	175.2	184.6	128.3 est

Table III

Year	Doctors	Lawyers	Dentists	Engineers Architects	Accountants	CPI
1971	100	100	100	100	100	100
1972	101.9	109.6	111.5	97.8	108.5	104.8
1973	103.3	132.6	117.2	125.1	148.0	112.7
1974	105.8	150.1	133.7	168.1	163.6	125.0
1975	108.9	144.9	158.9	201.6	185.9	138.5
1976	116.9	154.4	168.1	152.5	212.6	148.9

Table IV

Comparison of Net Incomes by Province 1971-1976.
(in thousands of dollars)

	1971	1976	Increase	
Ontario	\$42.1	\$49.2	\$7.1	16.9%
B.C.	29.5	46.5	17.01	57.6
Nova Scotia	36.3	49.6	13.3	36.6
Sask.	35.4	47.4	12.0	33.9
Nfld.	43.2	56.5	13.3	30.0
Alta.	40.2	50.1	9.9	24.6
Quebec	42.1	52.1	10.0	23.8
N.B.	39.4	48.0	8.6	21.8
P.E.I.	37.2	43.3	6.1	16.4
Man.	39.4	43.7	4.3	10.9

Finally, let us look at how Ontario doctors compare to their colleagues south of the border. Dr. Tom MacKenzie, a recent graduate of Queen's University Medical School, did just such a study, the details of which are published in the January 1979 issue of the Ontario Medical Review. His conclusions were that after expenses, taxes and inflation are taken into account, the U.S. doctor had a money income 35% higher and purchasing power 50% higher than his Ontario counterpart in 1976. The continuing decline in the Canadian dollar has probably widened the gap.

The study goes on to explore income comparisons for other professionals and workers and concludes that the exact opposite is true: for other professions, for wage earners and for the entire economy, money incomes in Ontario were higher by 20-30% in 1976 than those in the U.S.

The reasons for this discrepancy are not totally clear. Expenses as a percentage of gross income, hours of work and physician supply are not significantly different. The main differences are that fees in the U.S. are on average two to three times those in Ontario and have kept up with inflation, while these in Ontario have fallen 33% behind the rate of inflation as measured by the CPI. Incomes of Ontario physicians relative to fellow workers, both professionals as well as wage earners, have steadily declined, while this relationship in the U.S. has remained constant. It cannot be argued that our

society is more egalitarian than the Americans, since U.S. dentists, lawyers and professors earn roughly the same relative to wage earners as they do in Canada.

In his conclusions to the study, Dr. MacKenzie poses some important questions. Are American physicians grossly overpaid or are Ontario physicians underpaid for the value of their services to society? Most likely, the final answer lies somewhere in between.

Ontario Minister of Health, Dennis Timbrell, has stated publically that Ontario cannot afford to pay its doctors incomes comparable to those in the U.S. Why then can Ontario afford to pay its lawyers, dentists, professors, wage earners, teachers, etc. more than their American counterparts?

The above statistics have caused many a Ontario doctor to turn his eyes southward. In 1974, 84 active Ontario physicians moved south. In 1977 this number increased to 248 — a number equal to the graduating class of University of Toronto. The final tally for 1978 was not available to me, but judging by the results for the first nine months, a reasonable estimate would be 350-400. This number would probably be even higher were it not for the losses a moving physician would incur due to the devalued Canadian dollar. Perhaps an even more revealing indicator of the profession's discontent is the 800% increase in inquiries regarding state medical boards and a 300% increase in the actual number of licences issued to Canadians over

the period of 1974-1977. This is indeed a waste of a valuable natural resource, since many of those doctors leaving take years of experience and the cost of training with them.

Another complaint about the OHIP system is that it completely disregards individual expertise and years of experience. Every doctor, performing a particular service within his specialty gets paid exactly the same amount. There is no incentive for physicians to improve the quality of the service they render — only to increase the number of patients they see.

The government has realized the importance of incentive in our sister profession law. In April of this year, the fees paid legal aid lawyers were increased by 20%. Furthermore, three payment levels were set out to reflect the "expertise and efficiency that more experienced lawyers bring to bear on a case." The criteria for rating include: "years of experience, expertise in a particular specialty and the seriousness of cases handled." The parallel to medical practice is obvious.

On the basis of all the above data it is my contention that opted-in physicians in Ontario are underpaid for the value of their services. How and why has it been allowed to happen?

It has been stated to me personally by a representative of labour, that the profession's problems are due to a lack of organization and a lack of lobbying at Queen's Park. He further suggested that Ontario doctors stage a one day demonstration at Queen's

Park similar to that staged by labour last year. His final bit of advice was to vote for the NDP in the next election.

I replied that physicians have better things to do with their time and are more responsible than to waste a day blocking traffic and littering Queen's Park and furthermore even if it were possible to get all 12,000 of them out, the small number would not make for a very impressive show. I passed on the question of voting for the New Democrats and judging by the results of the last Federal election, my fellow Ontarian's did likewise. But the point about organization and lobbying had some merit.

First of all, it is extremely difficult to get any group of physicians together and involved due to the numerous demands on their time. When you do finally succeed in assembling them it is notoriously difficult to get them to agree on anything. Even though the Ontario Medical Association purports to represent the views of Ontario doctors, it is still left up to the individual to decide whether or not he goes along with those views. The OMA is a voluntary organization and no doctor is legally or morally bound to follow its recommendations.

This is quite different from the large national or international trade union in North America where union locals blindly follow the edicts sent out by their executive, regardless of merit, in the interest of 'solidarity.' Membership is obligatory in a union shop and those who disagree with union views (for example by crossing a picket line) can expect to face verbal and often physical abuse.

Any union man, properly indoctrinated, will tell you that 95% of all collective agreements are settled without a strike. But the fact remains that the ability (and willingness) to strike is the most powerful lever a union has in contract negotiations and wage settlements are often a function of the militancy of the union. The medical profession in Ontario, although it could strike, would probably never exercise this option for moral and ethical reasons. The Ministry has made good use of this knowledge in negotiating the fee schedule over the past seven years.

The following table shows the percentage increases physicians have

		received since 1971.
1971	4.5% over 2 years as recommended by the "Young Commission"	
1972		
1973	increase waived because of Pickering Commission	
1974	7.75%	
1975	4.0%	
1976	8.1%	
1977	6.5%	A.I.B.
1978	6.25%	A.I.B.
1979	6.6%	

The above speaks for itself especially in view of the double digit wage increases in both the private and public sector over the same period.

Furthermore, although the decline in purchasing power has been most precipitous since OHIP came into being, a study done by Robert Nielsen of the Toronto Star in 1976 showed that even as far back as 1955, the real income gains made by physicians were the lowest of a group of thirteen selected. Among these were lawyers, M.P.'s, letter carriers, firefighters and even the Ontario minimum wage!

To negotiate with any government, you have to play by their rules. You are seldom in a position to dictate the size or location of the "arena." Politicians are well trained in the skill of using the media to promote their point of view. The Ontario politicians have tried to deal with the high cost of health care by promoting it's most visible element, the physician, as the primary cause. One need only look back on the publication of names of doctors billing OHIP for more than \$100,000 in 1977 and the public contention by the former health minister, Frank Miller that each doctor in the province generates more than \$250,000 in health care costs per year. By manipulating public opinion in this way, politicians have had a powerful weapon to subdue the discontent of the medical profession.

Physicians, on the other hand, have up until now shown themselves to be completely out of their element in dealing with the media and even with the queries of their own patients, the public. The former difficulty is understandable as the crowded medical school curriculum finds no room for courses in public speaking

or communication skills, nor are these a pre-requisite for entrance. But the latter problem is harder to explain. Part of the trouble is the general fear/distaste for sitting down and talking frankly with people about money and fees. (It's just not "professional".) But also important is the fact that for seven years now, Ontario physicians have been answerable to some faceless and nameless OHIP bureaucrat, rather than to the patient. Perhaps, the skill of dealing one-to-one with a patient has become rusty.

The final factor in declining physician incomes is the political process itself. When comprehensive health care was introduced in Ontario, it had to take its place on the budget floor alongside of all the other increasing government expenditures. Politicians, being of little use to anyone unless they are in power, soon realize that many decisions depend more on political expediency than on genuine need or merit. Thus, attempts to contain costs by closing unneeded hospitals, raising OHIP premiums to a more realistic level, infusing private money into the system have failed because they are not popular. Since physician incomes are such a visible, tangible element of the system, and "doctor bashing" rather popular at this time, it is far easier and more vote worthy to hold the line in this area. "Everyone knows that doctors make too much anyway." Or do they?

Using 1978 income estimates from the OMA and monthly figures from Statistics Canada, I have worked through the 1978 Federal Income Tax Return comparing the average doctor's income with that of an automotive assembly line worker. For this exercise I am assuming that both have a wife who doesn't work and two children under the age of sixteen. The assembly line worker works an average of 41.6 hours per week, 49 weeks per year, with an average weekly wage of \$352.03 while the physician works 58.6 hours per week, 48 weeks per year. The assembly line worker has 5 paid legal holidays as well as 13 paid days off per year and holiday pay of 4% of gross earnings. Both own a home for which the annual property tax is \$1000.

Table V

		DOCTOR	GP 1978	AUTO WORKER	
Gross Income		\$85,500	72,900		\$17,250
holiday pay		--			+ 690
office expenses		<u>32,400</u>	<u>27,900</u>	employment expense	<u>-250</u>
		53,100	45,000		17,940
family allowance		<u>+ 616</u>			<u>+ 616</u>
Total Income		53,716			18,306
CPP	\$ 338			\$169	
UIC	---			187	
*RRSP	5,500			--	
dues	<u>150</u>			<u>203</u>	
	5,988			559	
		<u>5,988</u>			<u>559</u>
Net Income		47,728			17,747
*personal	2,430			2,430	
*wife	2,130			2,130	
*children	920			920	
*medical	<u>100</u>			<u>100</u>	
	5,580			5,580	
		5,580		5,580	
Taxable Income		<u>42,148</u>	<u>34,048</u>		<u>12,167</u>
Federal and Provincial Tax		15,563	11,792		2,962
reduction for children		<u>-100</u>	<u>-100</u>		<u>-100</u>
		15,463	11,692		2,862
Ontario Tax Credits		---	---		+ 92
TOTAL TAX PAYABLE		<u>15,463</u>	<u>11,962</u>		<u>2,770</u>
Taxable income minus tax payable		26,685	22,256		9,397
*Portion of deductions viewed as disposable income		<u>11,080</u>	<u>11,080</u>		<u>5,580</u>
		37,765	33,336	Total disposable income	14,977
hours worked per yr.		2813			1997
dollars of disposable income per hour		\$13.42/hr.	11.85/hr.		7.49/hr.

As can be seen from Table V, after taxes and the number of hours worked are taken into account, the average doctor in Ontario in 1978 earned less than twice as much per hour as the average assembly line worker. What does not appear in the above calculations is the fact that a doctor must pay for his family's OHIP, dental bills and glasses — benefits probably now included in the fringe benefits package of the auto worker. In addition, a doctor must take unpaid time away from his practice to attend Continuing Medical Education courses to keep his knowledge current. Finally the assembly line worker does not have to undergo the investment, worries and frustrations of running a business, let alone the years of training.

What about physician remuneration on a more global scale? Health costs as a percentage of the total Ontario budget have been static or even dropped a small amount over the OHIP years at

about 28%. Physician payments as a percentage of the total health budget have actually decreased from 25.4% to 23.1% over the same period. Where has the money gone?

Hospital costs have soared. Although patient utilization has remained fairly steady at 14.7 million patient-days per year, the costs per patient-day have risen from \$54 to \$141 in the past seven years. The reason: wages and salaries which, excluding those few physicians on salary, make up 80% of the hospital bill. While the number of hours worked rose only 8%, the average hourly wage paid in hospitals climbed 142% from 1971-1977.

During this same period Ontario's population grew by 13%, the number of doctors rose by 39% and still the average number of claims per doctor per year increased by 28.7%, with the average cost per claim only rising 11.1%.

What the above numbers reflect is an increased demand for health services. Whether this demand is

generated by the doctor (by ordering more follow-up) or by the consumer (seeing his doctor more often) is difficult to determine. There is probably an element of both involved, inasmuch as neither the doctor nor the patient is very concerned since a "third party" is footing the bill. However if we look at the British National Health Service, where physicians are mostly salaried, this phenomenon of rapidly increasing demand for medical service is also taking place. Since there is no economic advantage for a physician in that system to order unnecessary follow-up one would tend to think that consumer demand plays the greater role.

I have spent considerable time outlining the financial considerations for opting out of OHIP as well as their development. I hope that I have illustrated how the government, through moral persuasion, reliance on the goodwill of the profession, manipulation of public opinion, the AIB and a hard line at the bargaining

par-ti ci-pa tion

"The state of being related to the larger whole."

In medicine in Ontario, it's the Ontario Medical Association that represents the larger whole. Comprehensive in membership — it unites the whole profession, gp's and specialists, practitioners and students — comprehensive as well in its work, reflecting the profession's concern with clinical and scientific issues and with medical economics and politics, with practice management, and with the social questions that affect the professional and personal lives of today's physicians, The O.M.A. offers you participation.

For information on joining the Ontario Medical Association, simply write Anne Todd, Supervisor of Membership, O.M.A., 240 St. George Street, Toronto M5R 2P4; or phone 925-3264 (in Toronto), 1-800-261-7215 (toll-free outside Toronto).

Joining is only your first step in participation.

Ontario Medical Association

table, has managed to suppress physician's incomes almost exclusively among other professionals and wage earners. There are other reasons for opting out however.

Bureaucratic Harassment

The term itself is probably familiar to most, but the meaning is probably vague to the medical student as we do not yet have to deal on a day to day basis with the machinery of OHIP.

A well known recent example of bureaucratic ineptitude is the experience of the St. Michael's family practice clinic early in 1978. In July of that year, Dr. Chris Wells, of the clinic, finally had to write the Minister of Health concerning unpaid claims over the previous 12 month period totalling \$9,236 which had been rejected for payment. The minister looked into the matter promptly and advised Dr. Wells that "due to a misunderstanding of the policies" by a member of the OHIP staff, some claims that should have been paid, were not. OHIP sent a cash settlement two months later for "payment of claims erroneously disallowed" — no reconciliation, no detailed explanation... and no interest. This raises the question of how many other physicians in the province are being short-changed due to increasingly sophisticated interpretation of the rules or "misunderstanding of the policies" by OHIP officials, and do not even realize it. I say this because as an increasing number of physicians go to computer accounting and billing, they are finding discrepancies of 8 to 15% between billings and payments. Since the vast majority still rely on manual methods, they may well be unaware of differences due to the lag time of four to eight weeks and the claim by OHIP employees that certain accounts are being "reviewed."

The most disturbing aspect of the Dr. Wells affair was that OHIP escapes virtually unblemished by blaming the incident on "an employee." If the situation were reversed and the doctors had overbilled OHIP by \$9,236, they would have been lucky to avoid a costly and embarrassing investigation by the fraud squad, the Medical Review Commit-

tee as well as some damaging publicity. Whenever the OHIP officials make a mistake, they immediately go into a well rehearsed routine about how many million claims they process per day, etc. etc...

The above is only one manifestation of the fact that "Big Brother" OHIP is watching. By law, both opted in and opted out physicians must feed details of every visit — diagnosis, treatment, hospitalization, operation — into the mammoth OHIP computers which can spew out any permutation of the data at the touch of a button.

Specifically, the Professional Services Monitoring Branch (PSMB) uses OHIP data to construct a monthly "practice profile" for each doctor in the province. This profile compares the number of patients seen, the types of services performed, etc., with other physicians in the same specialty, the same county, the same district and in the whole province. Two sets of staff look at these profiles — members of the Medical Review Committee (MRC), and those in the Ministry of Health. The Ministry then sends "letters of verification" to selected patients asking them whether or not a particular service was performed by their physician some months previously. The return rate on these letters is reported to be somewhat less than 1 in 400 and many of those that are returned come from malicious patients who have had a difference of opinion with their doctor. The Ministry backs up this system with a team of its own inspectors who serve a similar verification function.

The one reprieve in the system is that the PSMB, upon recognizing a significant deviation in a profile, has its own team of volunteer physician inspectors from across Ontario. These people audit their colleagues so identified and send a report to the MRC.

Ontario physicians may subscribe to their own profiles for approximately \$50 per year. Thus it is possible that a doctor may feel a subtle pressure to conform his practice to the "norms" — mainly to avoid spending precious time explaining details to OHIP employees or the MRC. The implications for the future

use of these profiles to legislate practice protocols, quotas and other such restrictions is a very real possibility.

This becomes important in today's increasingly litigious society. The physician must always balance the need for proper diagnosis and protection from civil liability by thorough investigation, against the risk of claim rejection and possible audit for the performance of "unnecessary tests or too frequent follow-up" by the MRC or the College.

The most puzzling thing is that this whole, elaborate and expensive scheme is designed to catch the fewer than 1% of doctors who try to cheat the plan. In 1978 there were only six doctors convicted of defrauding the plan out of a total of 12,000 in the province.

Finally, like any massive bureaucracy, the OHIP machine is fuelled by the reams of paperwork which it produces. Aside from the considerable time spent in actually filling out the claim cards, the physician is often hard pressed to keep up with the stream of directives and rule changes issued by government, let alone try to understand them.

The last reason I see for opting out of the plan is a less direct, more philosophical one at present, but with the potential to become very real.

Preservation of Professional Independence and Quality of Care

One can only be amazed (and frightened) at the similarities as one looks at the direction that our system of medicare is taking and that already taken by both Sweden and England.

Sweden was one of the first down the path of totally socialized medicine. It began in 1955, with the introduction of compulsory health care, fee schedules, working rules and paper work — much like the current OHIP system — but financed from the beginning through general taxation. Within 15 years private practice of any type was abolished and all physicians became 100% government employees, with salaries more or less equilibrated across the

country. The Swedish Medical Association reacted by forming a powerful union with professional negotiators and won many of the benefits of other civil servants — overtime pay, sick leave, sabbatical leave, indexed pensions, paid medical, dental and disability insurance.

The result of all this has been a massive and expansive bureaucracy interposed between the providers and consumers of health care and decreased productivity of physicians. This has led to costs which have risen an average of 16% per year over the past 10 years. In an attempt to contain these costs, yet more committees have been formed to work out ways to ration services and cut costs.

Thus the Swede today has little choice of where or by whom medical care is provided. The care is mainly hospital and clinic-based with little resembling the private doctor-patient relationship of the past. Yet, physicians are happy with their working conditions and facilities, and the patients don't seem to be complaining. After all the Swedish people have had some years now to become accustomed to paying the highest rates of personal income tax in the world.

Not too far behind Sweden, but following closely in the footsteps is the British National Health Services (NHS). In his November, 1978 address to the American College of Surgeons, Dr. John Lister gave an account of the historical background and present state of the NHS as a warning to his colleagues in the United States.

"The National Health Service epitomizes the conflict between politician and physician. The politician is concerned to ensure that scarce skills are allocated for general good; the doctor, confronted by an ill patient, sees the good of that patient as the dominant issue. The tensions that exist...are manifested in the doctors' struggle for what they see as professional freedom and independence over what politicians see as the need for public provision rather than private decision in health care."

In Britain, as in Sweden, the health system (NHS) is completely funded by general tax revenues. The central government decides how and where and how much money will be spent as well as how individuals gain access to the system.

Although a small private sector still exists (less than 1% of all hospital beds) there is increasing pressure from politicians and unions for the total elimination of all such beds. Interestingly enough, however, private medical insurance plans are flourishing and have become a fringe benefit paid by some employers. The advantages are obvious — no one in need of health care need be deterred by the anxiety of having to directly pay for it. The not so obvious disadvantages are now becoming a reality to many Britons. Escalating costs resulting in cutbacks in services are leaving patients waiting for years for necessary elective surgery. Disgruntled physicians are leaving the country is over ripe and are leaving mainly for the U.S. and Canada. The tax burden is becoming unbearable. According to some emigrants, the quality of care in many centres is already third rate.

And yet, the public, having been slowly conditioned to accept the state of affairs, seem to be satisfied with their system.

Finally we come to the Canadian system and specifically Ontario and OHIP. I am sure that the parallels are clearly evident. We have taken the first step along a well-travelled road. The next step could come very soon if, as organized labour suggests, the Ontario government decides to take actions against opted-out doctors, or, as the Ontario Economic Council suggests, to finance OHIP totally through taxes and give "serious consideration" to putting certain physicians on salary. To do this would turn formerly productive members of society into little more than civil servants.

It would not be long then before we physicians would begin to think and act as civil servants. You might expect normal union demands for: "a 35-hour week (or 40 hours pay for 30 hours work); time-and-a-half for overtime; double-time for nights, weekends and holidays; stand-by or on-call pay; sick pay or its equivalent

in remuneration; disability pay; dollar pay parity with U.S. doctors; employer-paid OHIP, legal, dental care, etc., benefits; education allowances and 'professional development days'; vacation pay; union-forced pay increases along with COLA clauses; government-paid office expenses; resistance to technical innovations (or those involving non-union personnel such as paramedics or nurse-practitioners); an indexed retirement pension; freedom from dismissal or layoff for anything short of matricide; and last, but not least, relief from personal and professional responsibility, since doctors would be sheltered by the union or by the employer (government); and of course, annual strikes, preferably during the season of greatest illness."

Doctors, like any other group in our society, have the right to choose for themselves the type of work they will do and the circumstances under which they will work. Specifically, they have the right to choose by whom and how they will be remunerated. Opting out is simply exercising this option, not going on strike as union executives would have us believe. They are not withdrawing their services, there are no picket lines and there is no violence.

Those doctors who do opt out should be judged by their individual patients with respect to their performance, their fee schedule and their attitude, not by the collective judgement of a political union council. Let the patients decide if they feel that an opted out physician is worth the extra payment.

The stand taken by the OFL, UAW and CUPE probably represents a poorly thought out ploy to win some sort of public support at a time when such sympathies are low. They, in effect, are asking for a denial of liberties to one group of society, something which the unions themselves would never allow to happen to their members. One need only remember organized labour's march on Ottawa in October, 1976 to protest wage and price controls.

Whatever the reasons, I am glad that sanity still prevails, elsewhere.

(continued on page 31)

The Legal Dilemma Of Euthanasia

Paul Ranalli 7T9

The issue of euthanasia is one which virtually every doctor must face, whether in training or in practice. While the matter has been argued over the years, concrete solutions have so far been elusive. In this article, the author highlights the basic conflicts in the euthanasia problem, both from an ethical and a legal stand point. Central to this discussion is the doctor, who must ponder his or her way through the dilemma. The author also examines proposals to define the status of euthanasia within the legal framework in the best interest of all involved.

Considered in its purely philosophical form, the case for voluntary euthanasia is overwhelming. The verdict among major thinkers of the subject is nearly unanimous. Even Yale Kamisar, a leading opponent of voluntary euthanasia, having admitted his approval of it in principle,¹ yet he points out how "abstract propositions and carefully formed hypotheticals are one thing; specific proposals designed to cover everyday situations are something else again —".

Motives

Sympathy is unavoidable in considering the dreaded case of a patient suffering a wretchedly painful and degrading degeneration of his physical and mental faculties at the hands of a lingering incurable disease. Who would not wish the patient (and relatives) the mercy of *euthanatos*, literally "a good death"², instead of a pitiful spectacle in which life in its spiritual form—and, of-times, the physical—is a mere charade? Yet, undeniable, too, is the stubborn defiance of the situation to be resolved under a satisfactory law. Euthanasia is perhaps best defined

by Joseph Fletcher as a "merciful release from incurable suffering"³. There are two distinct forms of euthanasia: the active, where one intercedes in a positive way to terminate life, and the passive, where in omitting to act, one fails to intercede in order to preserve life and as a result, permits death to occur.⁴ In legal terms, the distinction is between acts and omissions.

The position of euthanasia in the eyes of the law was succinctly put by George P. Fletcher, assistant Professor of Law at the University of Washington:

It is indisputably clear in the law that acting to terminate life is first-degree murder. This is true regardless of the motives of the actor. A one time in the evolution of the common law of murder, it might have made a difference whether a man was moved by emotions of spite or by emotions of mercy. One speaks of the elements of "malice" in the common law definition of murder. Surely a man does not kill maliciously if he kills in order to save another man from unbearable suffering. But the concept of "malice" lost its force in the evolution of the common law; as early as the 16th and 17th centuries it came to mean nothing more significant than the requirement that the killing be intentional. Since a man killing for reasons of mercy does indeed kill intentionally, he kills maliciously—at least, according to the special dictionary of the law.

Killing for reasons of mercy, like killing in order to rob one's victim, is murder.⁴

The situation is similar in Canada. In legal theory, an action is considered from two standpoint: the *mens rea*, the state of mind of the accused, and the *actus reus* (literally "the thing itself"), the act performed. One examines the *mens rea* to determine whether a homicide can be called murder, manslaughter or infanticide. The *mens rea* does not refer to 'malice' or 'motive', and indeed, these terms are not found in the Criminal Code of Canada. Without question, a doctor who terminates a suffering incurable's life does it with a motive of mercy. But that is not point legally, and such an action may be a punishable crime.

Arguments

With the evident support of the law, anti-euthanasists strenuously resist any attempt to remove 'mercy-killings' from the criminal code on the ground that patients would be left with far too little protection from "not-so-necessary or not-so-merciful" killings.¹⁰ In a 1953 ruling, which stands today,² England's Royal Commission of Capital Punishment "reluctantly" concluded that such homicides could not be taken out of the category of murder, let alone be completely immunized.¹ The report cited the "notorious" difficulty of establishing the motive of the offender, as, unlike intent, motive cannot be inferred from a person's overt actions.¹

A common opinion is that euthanasia is being widely practised by doctors, and has been for some time. But is it valid to assume that a

majority of doctors are deliberately terminating, in clandestine manner, the lives of incurable patients? Hugh Trowell has questioned polls which rarely define euthanasia to begin with, and then ask doctors only if their colleagues are practising it. He feels that if doctors asked instead, "Do you practise euthanasia?" the results would be lower.² Nevertheless, *Scientific American* endorsed a study by the University of Pennsylvania, and concluded that from "This and more anecdotal evidence it seems clear that very few do everything possible to prolong the lives of all their patients."⁵

The issue is even less clear, for one must decide just what kind of an act constitutes euthanasia. Consider a patient who shows no signs of nervous activity and whose electroencephalogram (EEG) tracing has been flat for some time. Clearly the brain is dead, but if the body has been kept alive by a respirator and tube feedings, would it be voluntary euthanasia (assuming the patient has communicated his wish to die beforehand) to discontinue these aids? Trowell says no²: the patient is already dead. Others, like Dr. H. Lewis of Oregon University, agree. At the 1968 AMA convention he claimed: "Life ends with the death of the brain, no matter what the state of the other body functions."⁶ However, an attempt to legislate even this matter has come into dispute. A Swedish doctor has proposed that a patient be declared legally dead when his EEG reading is flat. This was denounced by American law professor George P. Fletcher as "morally insensitive". "A legal standard of death", he stated "...would be an overly rigid solution to a problem that changes dimensions with each medical innovation."⁴

When one takes a closer look at the medical facts the fundamental problem becomes clear: human disease cannot be 'pigeonholed' into neat, distinct categories. Disease is a continuum; it does not 'stop' or 'start' nor is it simply 'absent' or 'present'. It is infinitely more complex. It may be that a flat EEG reading is a reliable sign of death, but there are varying graduations of brain activity and alertness. Even the term "terminal illness" is meaningless, except, of

course, in retrospect, as death can come in a thousand ways. Terminal illness is the illness from which a man dies, but who can say when a man will enter hospital for the last time? Hugh Trowell has capsuled death pattern into three categories: sudden, vasculating (unpredictable), and the slow, steady march.² Yet complete, seemingly miraculous recoveries (spontaneous remissions) have been documented² even in the most deadly forms of cancer.

Recognition of the problems in labelling diseases 'fatal' or 'terminal' has resulted in major changes in proposed legislation by the Voluntary Euthanasia Society (of Britain). Where the first Euthanasia Bill (1936) had restricted voluntary euthanasia to those "suffering from an incurable, fatal and painful disease", the new Voluntary Euthanasia Bill (1969) speaks of "a serious physical illness, incurable, and likely to cause distress."² But would passage of this bill not create more problems than it solves? For example, using "incurable" as a criterion, where would the line be drawn? Should the blindness of old age, or senile deafness not qualify? And, considering the 97 to 99%² success rate in controlling pain in terminal cancer patients, should not voluntary euthanasia be offered instead to chronic arthritics under the category of "distress"? The answer is a resounding no. Medical specifics do not seem to offer a solution.

Morals

In considering the broader moral arguments for voluntary euthanasia, the most likely to lead us from this wilderness is the American theologian Joseph Fletcher. His philosophy involves two basic premises: first, the absolute neutrality of actions, a serious claim, and secondly, that actions must be done lovingly. To Fletcher, the issue is clear: in pathetic incurable illness, euthanasia is the loving thing to do, therefore it is right. Rules—be they the law of the state, or the rule-oriented deontological ethics—must be disregarded; one should not practise medicine by rule, but by reason. "Incurable pain destroys self-possession and disintegrates personality" he says in *Morals and Medicine*, "euthanasia is obviously

planned and deliberate. It is precisely this that gives it its ethical quality!"³ Without debating the principle one must question Fletcher on more specific allegations. In the chapter entitled "Euthanasia: Our Right to Die" he cites the "logical contradiction at the heart of the Hippocratic Oath", whereby the two duties of a physician, "first, to relieve suffering, and second, to prolong and protect life"³ seemingly come into conflict. But the actual wording of the Oath says nothing specifically about relieving suffering, nothing about prolonging and preserving life. According to Trowell, if the modern physician pays attention to the best interests of the patient, he is acting in the Hippocratic tradition.²

Similarly, Fletcher speaks of the "law of diminishing returns" in narcosis, that is, the patient builds up an immunity and the dosage must be increased, with the result that the patient's life may be shortened. But consider the case of advancing cancer in a patient; he may develop a tolerance to his morphine dosage in a certain period, yet equally likely is that his cancer has spread to other areas of the body, causing more pain, thus necessitating an increased dosage. Also, with regular injections, it is wrong to assume that a doctor has given the 'finishing shot' to a patient. The patient will eventually die within a few hours after the last injection; it cannot be otherwise.

Responsibilities

Of primary importance in considering legislation is its effect on the status of doctors. It is the doctor who is subject to the arm of the law (now that attempting to commit suicide is no longer an offence in Canada), it is the doctor whose oath is seemingly violated and it is the doctor who must bear the awful responsibility of deciding whether a patient has reached the unredeemable stage. To coin the phrase "Right to die" as Joseph Fletcher does,³ and rightly so, whether this 'right' does not transgress the right of doctors to their own consciences. Is it not insincere to demand that "the doctor...cast a cloak of respectability, if not anonymity, over the whole act?" In defending doctors' fallibility Joseph Fletcher speaks of the trust and con-

fidence we must have in physicians, in order for medical care to work. But there is dramatic irony in the juxtaposition of this view with Trowell's eloquent plea² to never, ever force doctors to be associated with euthanasia, as this would undermine the entire "covenant" of faith between patient and doctor:

Doctors, all persons designated as doctors must be completely excluded from the role of the person who terminates life.²

Proposals have been made¹ to institute a special 'euthanizer' to perform the act, but problems remain. The physician must still decide how much weight should be given to the wishes of the family, to the financial condition of the family, and to the prospect that his time might be profitably used in caring for patients with a better chance of recovery.

One must also consider the concept of 'acts' and 'omissions', the legal corollary of active and passive behaviour with regards to ter-

minating life. There is a separate source of law for each of these concepts. That a doctor may not 'actively' kill is an application of the general principle that no man may actively kill a fellow human being. However, the principle that a doctor may not omit to render aid to a patient is a function of the special relationship that exists between doctor and patient,⁴ the "covenant" Trowell alludes to.² While a doctor would have no more than a moral obligation to respond to the call for help of a stranger, he is legally obligated to render aid to a person in

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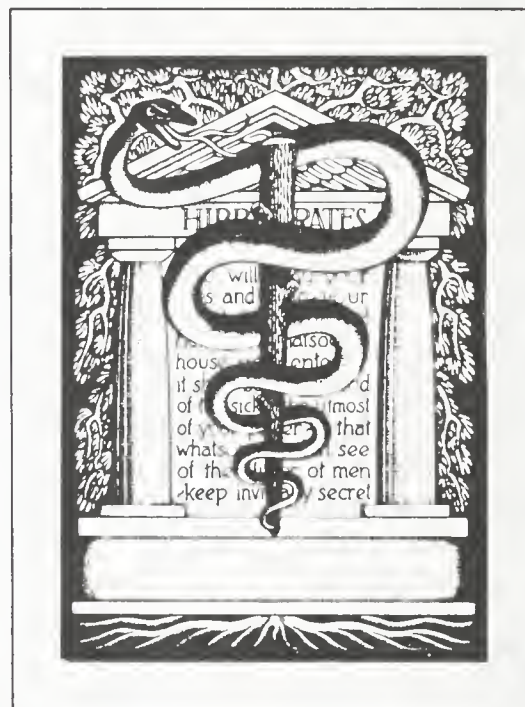
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his trust.⁴ In an omission, this relationship is all-controlling.

Doctors are thus open to prosecution for performing a merciful deed. Glanville Williams has proposed¹ that no medical practitioner be guilty of an offence if he can prove the patient was "seriously ill", unless the prosecution can prove the physician acted from some motive other than the humanitarian one allowed by law. Aside from the open interpretation of "seriously ill" possible (note the earlier discussion of 'terminally ill') the question is whether doctors will, or should, accept this responsibility. An American doctor has said that "prolonging life and determining death are not a theological or legal responsibility but clearly a medical responsibility".

Proposals

Serious proposals for legislation have been drawn up by both the Euthanasia Society (Britain) and the Euthanasia Society of America. However far from clearing the issue the proposed bills have provoked a firestorm of protest from pro- and anti-euthanasists alike. The long deliberate process seems to defeat the purpose of the end. Of the British bill,² too detailed to outline here, Yale Kamisar found that the "legal machinery is so drawn-out, so complex, so formal and so tedious as to offer far too little solace".¹ Other respected members of England's medical profession commented that the bill "would turn the sick-room into a bureau", or "produce an atmosphere quite foreign to all accepted notions of dying in peace".¹ The realization, by idealists, of how unpalatable the actual process can be, is often shattering. It is all a result of a conflict of goals by those favouring the legalizing of euthanasia: one wants ample safeguards to prevent abuse, but one also envisions a 'quick', 'easy' process; the two are hard to reconcile.

What is the answer? No one is sure if there even is one. Many have suggestions, but there is little consensus. To Trowell there are "many problems which cannot be solved by legislation".² George P. Fletcher wants the letter of the law unchanged, and to allow flexibility in the spirit of the law; to him, percep-

tion of the natural and of the artificial "...is a function of time and culture".⁴

Both a doctor⁸ and a university chaplain⁹ have advocated a "team approach" in medicine, in an effort to "treat the patient, not just the disease".⁸ One source of misunderstanding, as Trowell has pointed out,² is that most people envision the whole question of euthanasia in only one category—that of the terminal stages of a distressing and incurable illness. But there can be myriad other medical circumstances. Another ideal condition would be where attending physician has known the patient and his family for a long time; he could sense their conscious and unconscious wishes and needs. Unfortunately under modern conditions few families have a regular physician of any kind.

The Euthanasia Educational Council has drawn up a 'living will'⁵ which informs the signer's family or others who may be concerned of the signer's wish to avoid the use of "heroic measures" to maintain life in the event of irreversible illness. A similar "non-statutory declaration"² has been proposed in Britain. The catch with these proposals is, of course, deciding when the conditions necessary for implementation have been met. And what of those who do not possess such a document?

In 1957 Pope Pius XII made his oft-cited pronouncement⁷ that a physician is not required to use "extraordinary means" to maintain the spark of life in a deteriorated patient with no real possibility of recovery. However, as a Kansas surgeon has pointed out,⁸ the physician and the moralist do not use the terms 'ordinary' and 'extraordinary' in the same sense. One set of definitions is that ordinary measures have minimal danger with maximal effectiveness, and are not an excessive burden; extraordinary measures, on the other hand, present a burden and have minimal effectiveness with maximum danger.⁶ Yet active proponents of euthanasia interpret 'extraordinary' to simply mean "inappropriate in the circumstances".⁷

Viewing euthanasia legislation from a wider perspective the most serious objection raised is the so-called 'wedge' principle: that, as the 'small end of the wedge', a pioneering euthanasia bill could

precede a fundamental shift in public attitude. Kamisar cites the Nazi Germany experience:

It started with the acceptance of the attitude basic in the euthanasia movement, that the is such a thing as life not worthy to be lived.¹

Joseph Fletcher counters with the example of capital punishment: since it became law its use has narrowed rather than proliferated.³

To illustrate the enormous complexity of the issue, recall that even such an ardent foe of euthanasia legislation as Yale Kamisar approved of voluntary euthanasia in principle. To complete the vicious circle, even the eloquent pro-euthanasist Joseph Fletcher has admitted grave doubts about the limitations of voluntary euthanasia:

What of the patient who have never stated his wishes and is past making a mentally competent choice (for euthanasia)? Under this code (of voluntary euthanasia) mercy would have to be denied no matter how hideous and hopeless his sufferings. Yet in modern medical practice most (dying) patients are in precisely this subnormal condition.²

Although the present law is strict in letter it can be malleable in execution. There is no case in Anglo-American history in which a doctor has been convicted of murder or manslaughter for having killed to end the suffering of his patient.⁴ Nevertheless, that the present law is adequate in the face of onrushing medical advances is doubtful. There is no doubt, though, that frank, honest discussion between professionals and laymen alike is the only way to reach a solution we can only hope exists. □

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The Non-Therapeutic Sterilization Of Mentally Incompetent Young People Upon Parental Consent

Editor's Note: This matter is to be brought before the Ontario Legislature during the fall session.

Pro:

Sterilize all mentally retarded females!

One's initial reaction to this statement should be one of shock and indignation. This suggestion is obviously a direct infringement upon a retarded individual's rights and freedom. Although such a dogmatic statement is unacceptable, the idea of sterilizing moderate and severely retarded females so that they may be protected from pregnancy, must be considered seriously.

In the proposed legislation there are two issues that must be addressed: 1) is there really a need for sterilization? and 2) who should be responsible for giving consent for such a procedure?

The current philosophy in the education of the mentally retarded is "normalization", ie. "creating the greatest allowable degree of independence in the community". Therefore, the female retardates are able to move freely in the community and may be exposed to, or involved in, relationships with the opposite sex. Since the mentally retarded have the same sexual desires and drives as the rest of the population, the probability of a retardate becoming involved in a sexual relationship at some point in her life is very high. Although physically mature, the retardates remain immature socially and emotionally, and lack the judgement required in many social situations. As a result, they can easily be persuaded and led into difficulty, sexually. A retarded girl could easily be the victim of a persuasive, deviant male of normal intelligence, especially if the girl is physically normal. She could be the victim of rape or assault. Finally, she might have a normal heterosexual relationship with another retarded individual that included sex. Although these situations may be unavoidable, the possible undesirable outcome, a pregnancy, can be prevented.

Pregnancy in a female retardate would be particularly undesirable because of the traumatic effect it would have upon the girl. The experience of a pregnancy and delivery for a girl who has no conception of her bodily functions would be extremely upsetting and bewildering. Also, the future of the unborn child must be considered. The child has an increased chance of being retarded. Even if the child was normal, the mother would be unable to provide

Con:

I wish to preface this piece by stating the obvious. The issue being discussed here is both complex and sensitive, which is why it is such an important issue. I cannot state with any great deal of certainty that I am absolutely against non-therapeutic sterilization of children with mental retardation in all cases because, as is the situation with all moral and legal decisions, the underlying circumstances in each individual case, play a critical role. I can say, however, that the decision to do such a sterilization would be hard-fought and long in the making, to my mind.

The central issue as I perceive it is: Who has the right or ability to make this decision to sterilize in lieu of the patient, and at what point do you state that the patient is unable to make their own decision? At what I.Q. statistic do you draw this imaginary decision line? When does a person's intellect fail them enough that they are unable to make this rational decision for themselves?

Mental retardation has been looked upon over the course of history as a cessation of mental growth with the fixation of a person's intellect at a certain child-like level. In fact the term "God's (eternal) children" has been used popularly, much to the retarded's detriment. Mental retardation in itself is more properly defined in terms of difficulty in assimilating knowledge or data at a rate comparable to the norm. It is not a halt in learning but rather, learning at a slower rate. Granted, some people with more severe brain damage appear not to develop at all, but these patients, are unlikely to have need of birth control measures.

For the person who has a genetically-determined mental retardation, genetic counselling for him and his family is mandatory in my opinion, and must be both complete and compassionate. I am hopeful that with care and determination, the importance of birth control can be established when necessary. Present day medicine is such that therapy regimens, which minimize patient error, can be safely employed.

One must realize that when such a person is sterilized, we are blatantly condemning that person by stating "It would have been better that you had never been born."

Pro (continued)

it with the level of care and stimulation needed for the development of a normal child. These arguments are also particularly valid in the argument that retarded females should not be allowed to conceive even if they want their own children.

Since pregnancy of the retardate is undesirable, the real problem and crux of the issue is how can this state be prevented? There are really only three alternatives. One is to protect the individual from any sexual encounter by constant supervision or confinement. However, this is contrary to the concept of normalization. Another is to have the individual on the pill permanently. Although reliable for normal females, studies have proven that this method is very unreliable for the retardates. There is difficulty in clarifying the method of use and in impressing upon them the necessity of constant and regular use. This leaves only one alternative, sterilization. The procedure can be done on an out-patient basis and would not be very stressful to the individual. Since sterilization is the only way to ensure that a pregnancy can be prevented, this procedure should be considered as a way of protecting these special individuals against the traumatic experience of child-bearing.

The other issue before the legislature is who should be given the authority to give consent for this procedure. Clearly the retardate is unable to give informed consent, since she is incapable of understanding the operation and its consequences. The question arises then, should the decision be left to the discretion of the parents, who may or may not be well informed, or to the community, (psychiatrists, adult protective service workers, social workers) who ultimately have to bear the financial burden of the care of the mother and her child.

Any decisions to be made on this highly controversial issue are destined to be wrought with difficulty, but there do exist several valid arguments in support of the sterilization of mentally incompetent young people.

Ruth Morris 8T1

Con (continued)

And to add to this: "You aren't smart enough to be trusted with this part of your life."

In an effort to rehabilitate and integrate the mentally retarded into society, we strive for the ideal of "normalization". Are we to remove this basic right in our society, the right to self determination and personal will and yet expect these people to achieve in all other ways? We tend to underestimate the capacity for emotions and sensitivity as well as conscience in a person who appears slow.

We must also realize that in many cases where mental retardation was caused by non-genetic factors, the thought of children to such families can be rationally considered. Children can be raised by other members of the family when the parents are unable to do so. Also there is the viable option of adoption. Such cases may indeed be rare but nonetheless possible.

Can one categorically say that at a certain I.Q. a mother or father becomes neglectful, non-loving and not stimulating for a child? Can we say that the hardships, in the social spheres, that children may face when they have slow parents are so many or so severe as to preclude life? Granted such people need extra concern on society's (our own) behalf, but can we truly say that the easy way out is the best?

You may consider me naive or ignorant but I cannot and will not easily justify such a course of action. I also hope that the seed of doubt has been planted with you, for you to tend.

Peter G. Rumney 8T1



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Platelets and Atherosclerosis

Bo Ngan 8T2

The development of atherosclerosis is characterized by progressive lipid deposition in the intima together with proliferation of smooth muscle cells and endothelial lining of the vessels. The possible role of platelets in the initiation and development of atherosclerotic plaque is reviewed. The interaction of platelets and leukocytes in the presence of immune complexes and complement proteins can trigger enzyme release which directly injures the blood vessel wall. Platelet adhesion to the exposed collagen, lead to the release of platelet granule contents (ADP and thrombin) and activation of the prostaglandin-arachidonate system. This results in the formation of a mass of aggregated platelets attached to those adherent to the damaged vessel wall. The platelet surface and surface target proteins have been postulated to play an important role in adhesion and aggregation. A platelet mitogenic factor which may be responsible for smooth muscle cell proliferation is identified during platelet release reaction. It has been shown that thrombin-mediated platelet aggregation and release of serotonin could be greatly amplified by the presence of complement components. However, metabolites from prostaglandin endoperoxides of the vessel wall endothelial cells could either amplify or de-amplify platelet functions. Conclusively, platelets and thrombus formation are associated with a considerable degree of intimal hyperplasia.

Atherosclerosis is an arterial disease resulting from a group of processes which cause focal thickening of the intima of arteries loss of elasticity or arterial walls and thrombotic complications such as stenosis and occlusion of the affected arteries.

The development and growth of an atherosclerotic plaque is mediated via the proliferation of modified smooth muscle cells of the intima and the elaboration of extracellular connective tissue elements such as collagen, glycosaminoglycans and elastin. In these lesions, deposition of intracellular and extracellular lipids is also common and in advanced stages, lesions may contain degenerating cells. Mural thrombi can develop in relation to these atherosclerotic plaques. They may become incorporated into the

substance of the arterial wall with subsequent increase in thickness and eventually become occlusive. These thrombi may also fragment, giving rise to circulating platelet emboli. Thus, the development of atherosclerosis appears to involve the smooth muscle cell of the vessel, the endothelial lining of the vessel and some of the constituents of the blood.

In this review, the possible role of platelets in the initiation, development of atherosclerotic plaques and the formation of mural thrombi will be discussed.

Endothelial Injury

In 1850, Virchow forwarded the 'response to injury' hypothesis to account for the initiation mechanism of atherosclerosis. The exact

mechanisms whereby focal injuries are induced in the vessel wall have not yet been elucidated. Several conditions and agents, however, have been shown to cause endothelial injury: endotoxin, viruses, antigen-antibody, hemodynamic forces, hypertension, hyperlipidemia and chronic hypercholesterolemia, homocysteine, carbon monoxide and anoxia. The interaction of platelets and leukocytes in the presence of immune complexes and complement proteins can trigger enzyme release which in turn directly injures the blood vessel wall.

Events subsequent to endothelial injuries have been studied by using balloon catheters or by infusion of homocysteine. In both cases, abrasion of the arterial endothelium causes an immediate platelet response. Within minutes, platelets adhere to the exposed collagen, microfibrils and basement membrane of the subendothelial connective tissue at the site of injury. Platelets aggregate and release their granule contents. This can take place repeatedly and further adhesion can be promoted by decreased blood flow.

Chronic hypercholesterolemia can injure the endothelium causing focal desquamation, platelet adhesion, and aggregation at the injured site.

Role of Collagen

The mechanism of platelet adhesion, aggregation and release reactions have been thoroughly studied in vitro by using a variety of surfaces and inducing agents, such

as thrombin, collagen, ADP, epinephrine, antigen-antibody complexes, platelet isoantibodies, fatty acids, viruses and bacteria. Of these, collagen is the most relevant to the *in vivo* response.

Collagen induces both the release of platelet granule content and the activation of the arachidonate pathway. Platelet granules are rich in aggregating agents like ADP and thrombin, thus enhancing the further aggregation of other platelets.

Activation of the arachidonate pathway is an important amplification step. Activated of phospholipase A₂ catalyses the removal of arachidonate from platelet phospholipids. The cyclooxygenase system then catalyses the conversion of these arachidonates to form prostaglandins PGG₂ and PGH₂ which can give rise to thromboxane A₂ and then B₂. These unstable intermediates are themselves potent aggregating and release inducing agents. This series of events will result in the formation of a mass of aggregated platelets attached to those adherent to the damaged vessel wall. However, these aggregates are unstable unless fibrin forms around them.

The platelet surface has been postulated to play an important role in adhesion and aggregation. In experimentally induced hypercholesterolemia, the fatty acid composition of the platelet surface was shown to be altered. Platelets acquired an increased tendency to respond to aggregating or release-inducing agents and there was increased availability of platelet factor 3.

The platelet adhesion response to collagen was proposed to be mediated by receptors that interact with the proline and hydroxylproline determinants of the collagen molecule. Recently, membrane bound complement proteins are also implicated to mediate a role in the aggregation of mammalian platelets by collagen.

Thrombin-Protein Interaction

Various proteolytic enzymes e.g. thrombin, act on surface target proteins of which the most speculated one is thrombosthenin M (the myosin like component of the

platelet contractile protein system.

Also sensitive to the action of thrombin, are Factor XIII, adenylate cyclase and a surface-orientated glycoprotein interaction is not known, but a contractile protein model for platelet aggregation operating at the surface membrane has been proposed.

The platelet membrane also has nucleoside diphosphate kinase activity and this enzyme is thought to be the receptor site for ADP. The membrane enzyme, adenylate cyclase, is also present. The central role of this enzyme in platelet behaviour has been controversial, nevertheless, elevation of the cyclic AMP content of the platelet is associated with inhibition of platelet aggregation. Both thrombin and collagen suppress the membrane adenylate cyclase activity.

Cyclic-AMP dependent protein kinases are important in the second stage mediation of membrane responses to external signals at the surface. These protein kinases use ATP as a phosphate donor to phosphorylate the serine or threonine residues in proteins. They have been implicated in a variety of membrane functions, e.g. cation, Ca⁺⁺ translocation, exposure of receptor site and cell surface to surface interactions.

Changes in cytoplasmic Ca⁺⁺ concentrations can affect many cellular functions. There is evidence for a calcium pump in platelets. The full role of Ca⁺⁺ in the transmission of receptor mediated effects is not clear, however, mobilization of intracellular calcium depots play an important part in the regulation of the polymeric microfilamentous and microtubular complexes of the platelet cytosol. Regulation of the assembly and disassembly of these complexes is important to the platelet function.

The actomyosin contractile complex of microfilaments is stimulated by low level changes of Ca⁺⁺, whereas, microtubules are dissociated in the presence of Ca⁺⁺. The dynamics of the polymerization of these complexes are also dependent on local ATP and GTP levels. Whether they are further regulated by tropomyosin and troponin complex analogous to the control of skeletal muscle myofibrils

is non-certain as only tropomyosin has been found in platelets.

Platelet Mitogenic Factor

During the platelet release reaction, a variety of other substances are extruded. The most pertinent to the development of the atherosclerotic plaque is the mitogenic factor for smooth muscle cell proliferation described by Ross et.al. This factor is nondialysable, relatively stable and basic. It shares similar properties to extracts from bovine pituitary. It may be possible that the platelet factor is derived from the pituitary gland, and that it is taken up by platelets and concentrated in granules in a similar manner as serotonin. Alternatively, the factor may be synthesized in the megakaryocyte. Although this platelet factor can trigger cell proliferation in culture, non-platelet factor can trigger cell proliferation in culture, non-platelet factor can namely low density lipoproteins from serum and insulin also have a supportive role. The exact role of these growth promoting factors *in vivo* and their relationships to the development of atherosclerotic plaques remains to be determined.

Monoclonal Hypothesis

Recent observations of Benditt et.al. that smooth muscle cells present in the atherosclerotic plaque have enzymes of a single phenotype led to the hypothesis that each lesion contains smooth muscle cells derived from the proliferation of a single clone. Although this monoclonal hypothesis may seem to question the role of the platelet-derived mitogenic factors which lack clonal selectivity, the clonal development process within the atherosclerotic plaque may not be at the initiating level, but rather, at the developmental level, whereby selection with evolution towards single enzyme phenotypes could conceivably take place in some types of focal hyperplasia.

The most direct *in vivo* evidence for the role of platelets in atherosclerosis comes from immunofluorescent histological demonstration of platelet antigens

(continued on page 30)

2004 A.D.

Stanley C. Best, M.D., F.R.C.P.(C)

Dr. Stanley C. Best is Associate Professor of Preventive Medicine and Biostatistics at the University of Toronto. In February of this year he delivered a paper in Saskatoon at a national Pediatrics, Obstetrics and Gynaecology conference. His presentation touched on some of the important issues of our time as well as some of his personal speculations and convictions on how things will be in twenty-five years.

The following are excerpts from Dr. Best's paper.

The Individual and Society

Whether it is in this International Year of the Child, 1979, or 25 years hence, people will continue to be indisposible. But how we handle the atomic explosion of knowledge and technique, and what values will endure to help us evaluate what we are doing, remain important questions. Because we are humans, we will continue to have our language and communication. We will develop new myths about our personal and communal story and history. These will help to overcome a sense of rootlessness.

Each of us has the inalienable responsibility of individual judgement, both the judgement which dares to criticize and the judgement which dares to trust. The power to receive, to appreciate, to discriminate, to value, are criteria for measuring human excellence. Education and preparation for this power are not unaffordable, but the very items which we cannot afford to do without.

By comparison with simpler societies, we should be less pressed by problems of day-to-day living. We should be better equipped to take long range views. We should be more disposed to value for ourselves and for our children the nonutilitarian aspects of life and less restricted by shortage of money and

time in realizing them.

Our culture is utilitarian to a pathological degree. True healing and constructive creative value are now too often measured in dollars and cents. What value do you put on genius in art or music, on healing, on humanity? What is the scale to measure ability or excellence, and different kinds of excellence? In our ignorance, or refusal to fully acknowledge our complexity, we set up norms and anything outside of these is abnormal or exceptional, even if it comes from a gifted individual. Is divergence a defect? No. Our very diversity is a tremendous asset.

The Family

The traditional family is here to stay. It will regain its pre-eminence in early child-rearing and in providing a genuine home base. There will continue to be affluent adolescent preregination. In the home will be found love and consistency: a bullwark of phalanx against the many aspects of child abuse, homelessness and loneliness. Increasingly, maturity will be gauged by one's ability to give love away with absolutely no thought of reward.

In 2004, we will see the importance of the mother-child relationship. The others in the family and in the professions in our affluent society will help to marsupialize the young until



late adolescence.

Good parenthood is a skilled profession. Child-rearing is the most important thing that all parents will ever do, especially in the time from birth to adolescence. All specialists are partners in this process and must coordinate to best serve the child.

The Child

Nearly 400 years ago (1601), children's eyes were put out and the children were sent out on to the streets to beg. About 300 years ago, John Graunt documented "excellent killing nurses". In 1719, dead children were piled on dung heaps. It was slightly more than 200 years ago (1767) that England passed an act for keeping children alive. Truly, the rights of the child have progressed considerably since then.

The Physician

Some 20 years ago, the late Dr. Allan Kennedy of the Academy of Medicine of Hamilton, spelled out some principles. I choose to re-emphasize four of them:

- the fundamental importance of voluntary effort
- the central significance of rights to confidentiality and privacy
- the necessary milieu of mutual respect and trust
- the dividend to be derived from focusing on good health instead of illness or accidents.

Doctors have some very special individual and collective responsibilities to society as they care for others. They must establish conditions which will most favour the full

development of a human person's excellence in powers of thought and sensitive appreciation of all the values which human beings can learn to divine.

If you are judging quality of society, every activity of each man, woman and child should be considered in terms of being lovely, pleasant, fitting and right in itself. This is the basic justification of all compassionate care; a touchstone measuring the humanity of society.

Extraordinary ingenuity and ability

will be increasingly rewarded. Doctors will increasingly find satisfaction in clinical evaluation and in giving leadership in choosing medical priorities.

Looking to the future, there will continue to be primary concern about the wholesome growth and development of children. Clinical appreciation of sick children will lead to refinement in what we know. There will come increasing recognition of the previously unknown interrelationships between the physical, the chemical, the physiological and the spiritual.

Science and Medicine

Society has enough men of action with their hands on instruments of power and calculating geniuses supported by giant computers. We need men and women of sensibility, gifted to appreciate and value human life.

We will learn to clearly measure qualities such as maturity and creativity. In addition to the more solid subjects, such as nutrition, we will see connection between oriental and occidental medicine, such as is already being demonstrated with acupuncture.

Primary care will reach to even earlier case finding and diagnosis. Clinical evaluation in the style of Sir William Osler will regain central importance despite almost being overwhelmed by the surrounding, abounding constellation of diagnostic aids.

General Thoughts

Sir Arnold Toynbee said that "our age will be remembered neither for its heinous crimes nor magnificent inventions, but for the idea that all the benefits of civilization might be made available to all mankind." We have come a long way, both philosophically and technically. We have many proficient techniques now. Who can tell how many new techniques will be invented and improved? What will be the technical topics in 25 years?

We are faced with programmes and priorities. There is an ancient Chinese proverb and I think it is helpful today: "the careful foot can walk anywhere". Our only hope is candid face-to-face problem solving and truly democratic decision-making. □

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to this complex subject . . .*

The Physician and Canadian Law

Second Edition

T. David Marshall, LL.B., M.D., L.M.C.C., F.C.L.M.

This book is written from a unique perspective. As a practising lawyer and a practising physician, the author is able to alert the doctor to the legal issues that affect him and to assist the lawyer in representing the doctor.

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A Cardiac Patient Speaks Out

Jack B. Rostoker, C.A.D., P.M.I.
Howard L. Rudner 8T2

After 13 years of success, a fully rehabilitated cardiac patient addresses himself towards a very vital issue.

This paper focuses on the psychological, physical and psychosocial treatment of the cardiovascular (CV) patient. It emphasizes that treatment cannot really begin until a dialogue exists between doctor and patient and, more important, there is mutual respect and trust. Unless this dialogue exists, the emotional state of the CV patient becomes one of disbelief, anger, fear, depression and distrust, which evolves into a rampant and contagious disease affecting family and staff.

The paper expresses thoughts on counselling regarding educating the patient, while he is in the hospital, as to his condition and treatment, including family and staff so that they can understand the patient's anxieties and frustrations. There is also the importance of a close follow-up to prepare the patient to cope with his natural environment away from the protected atmosphere of the hospital, and to ensure that he does not lapse into previous habits. Here the patient must be self-motivated!

A need for professional conduct is discussed — how much should a patient be told? What about patient's medical documents? Should these be used in treatment or kept secret? Should there be a team approach to patient treatment? Furthermore, there can be no formulae — each patient must be dealt with at his own level.

Most important, the paper states that no CV patient can be considered fully rehabilitated until he is completely in control both mentally and physically, and he is dependent on no one.

In 1966 at age 47 I was admitted to hospital with a heart attack.

This paper is based on 13 years of study of personal experiences, discussions with cardiovascular (CV) patients, families, medical and paramedical personnel involved with exercise therapy. This study also includes participation and observations of testings and cardiac rehabilitation programs in Canada and the U.S.A.

Upon entering the hospital the patient goes through a cycle of emotions. Many medical and paramedical personnel dealing with CV patients can recognize heart disease, but unfortunately they cannot recognize the symptoms of another illness which has to be treated almost immediately, "The

Psychological":

- a) Disbelief - Impossible (it could only happen to someone else);
- b) Anger - Why me? Why now?
- c) Fear - The Unknown
- d) Depression - What will I be able to do now? (depending on circumstances, family responsibilities, financial situation, age, occupation, etc.).

The doctor must be prepared for many questions. It is at this time that a decision be made on how much to tell the patient, including his medical documents, and if they should be used in treatment. There are many

doctors who feel that this would cause the patient to worry or that it may be the start of many more questions, such as "What is a heart attack?", which the patient would not understand and which could be very time-consuming. It may surprise some of these doctors how much a patient will understand if explained in understanding terms, and how they accept and adjust to bad news!

Doctors with empathy will not wait for questions which must come, but will encourage them. Once dialogue of this sort has begun, it will not only be informative but also help establish mutual trust and respect. If on the other hand the doctor avoids or does not answer questions truthfully, there will be distrust and loss of respect.

A vital component of this dialogue in hospital is patient counselling. There may never be a better opportunity when the patient is so available and so receptive to suggestions. The purpose of counselling is to get the patient to think, because "to wonder is to begin to understand". He will understand the illness: the damage, time to heal, that it did not happen overnight. Treatment will mean that there is no instant cure, that it takes time to adjust, and like all damaged muscles the heart needs movement. Seeds are planted which will lead the patient to review his lifestyle and consider other muscles and systems which may have been affected. With this counselling, the patient will begin to feel encouraged and to visualize himself psychosocially adjusted with limited mobility at the start, but on the road to being fully rehabilitated. Otherwise, being kind and pampering may result in creating a car-

diac cripple or the so-called problem patient. Lack of family understanding can lead to overprotectiveness. Therefore, the whole family must also be counselled to understand the anxieties and frustrations of the patient and the treatment that will help him deal with these, thus enabling them to alleviate their concerns.

All logic and counselling in the hospital is lost if not followed up immediately and reinforced regularly. There is a difference between knowing and doing, especially out of the hospital. If properly counselled in hospital, the patient will have learned to realise when he has lost control and when life is running him. He will have to readjust to the "quickie" world: quick bite, quick drink, quick shower, etc., even a "quickie" (sex). Therefore, there is the need for a close follow-up during which time the doctor will be able to assess if the seeds planted require watering or resetting due to bad weather, similar to the watching of a growing plant or tree. The patient now, as before, should always know what is happening, whether he is progressing or regressing. This will also reinforce the bond and trust between the doctor and himself. In time, self-confidence will arise from the continuous counselling and success in doing.

To become fully rehabilitated, the patient must understand and learn that there is a need for physical activity. The degree of this activity depends on the patient's age and extent of his physical condition and history. He must build himself up once again, including overall muscle-tone. He must understand however, that physical activity is not a cure-all, that it requires patience, and that it goes together with diet and rest. He must be aware that physical activity "will be time-consuming"; may be boring, and may produce aches in muscles unused in a long time. He must be aware that he can overdo it and be over-anxious to prove he is better, therefore becoming too competitive. He must allow the necessary time to warm up and cool down. Together with close follow-up, supervision, counselling and realistic goals and objectives, the patient will find himself feeling better, healthier and happier.

Some of the main reasons why

patients do not participate or discontinue exercise programs are as follows:

- family influence
- lack of counselling and guidance
- informed letter of consent (rare instances of mishaps)
- fear of testing "guinea pig" feeling
- lack of empathy and personal attention from personnel after awhile
- distance to travel
- financial problems

There are also a few important reasons why doctors do not recommend their patients for exercise therapy. Firstly, they may still feel that exercise therapy is at the experimental stage and is too aggressive. Secondly, programs have too many patients for proper supervision. Thirdly, if a problem arises the doctor gets blamed, usually by the family, or else there is lack of any acknowledgement. Finally, but not the least, are legal implications.

Cardiovascular disease, being what it is, suggests that cardiac rehabilitation involves more than a medical approach, but a psychological and physical one as well. It would be hard to find any

physician who would not only have the time but also be an experienced cardiologist, psychologist, physiologist, dietician and in rare cases, a cardiovascular surgeon. With CV disease growing at the rate it is, might it not be better for a specialized CV medical and paramedical co-ordinated team approach?

There can be no formulae. Each patient is unique, not only in his physical disability, but also in his mental attitude. Furthermore, the patient's financial situation, occupation, general fitness and previous interests and participation in physical activities must be considered.

In conclusion, there are many reasons to believe that many CV patients can be fully rehabilitated. This means that the patient is at least as good both mentally and physically as he was before his heart attack. In time he should be dependent on no one, since it is impossible to monitor a patient all the time. Properly counselled and guided at the beginning, many patients could become knowledgeable, self-motivated, confident and have an excellent chance to be fully rehabilitated. □

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Relations Between Stroke And Diabetic State

Vladimir W. Shishkov 8T1

A relationship between stroke and diabetic state evolved from a study performed at The Sunnybrook Medical Centre, Stroke Intensive Care Unit. The retrospective survey showed that significantly more overt diabetics were found in a population of 517 stroke patients compared to Canada's population at the age range studied. A significantly higher mean fasting plasma glucose taken shortly after the stroke was found in overt diabetic patients with brainstem infarction compared to those with hemispheric infarction. Prospectively, stroke patients admitted to the Unit with no history of diabetes mellitus exhibited glucose intolerance and raised serum insulin levels after an oral glucose load when these values were taken within seventy-two hours of the stroke as compared to two weeks after. Each patient acted as his own control. Individual insulin/glucose ratios may be used as an index of stress.

Two separate phenomena account for these observations: 1) overt diabetes mellitus with concurrent vascular disease may lead to cerebrovascular complications, 2) a transient reactive hyperglycemia and hyperinsulinemia follow stroke. It is likely that this is due to a neuroendocrine mediated stress reaction when the brainstem and hypothalamus are not directly affected by the vascular insult. The stress reaction following stroke may be different from other forms of injury.

There is some agreement that association between diabetes mellitus and stroke exists. A number of clinical studies report a high incidence of stroke patients with diabetes as an associated disease, the figures being at variance by as much as 20%. The results of these studies are incomparable for several reasons:

- 1) The criteria for fasting plasma glucose levels used to diagnose diabetes vary among investigators,
- 2) there is no definition of stroke types,
- 3) and most important, the time at which blood samples are taken relative to the stroke in those patients who lack historical evidence of diabetes remains unknown.

This conflict formed the basis of the retrospective survey, the purpose of which was to determine the incidence of diabetes in the stroke population categorically.

A frequent finding in patients with stroke is that they exhibit glucose intolerance and are hyperglycemic very soon after the event when compared to matched controls. This is usually transient but may persist for some time. Such a pattern is found in non-diabetic as well as overtly diabetic stroke patients. A rise in insulin secretion occurs in non-diabetic stroke patients and remains elevated in the blood as long as the glucose level is high. The plasma growth hormone level also becomes elevated: the more severe the stroke, the higher the concentration achieved. To corroborate these observations and resolve the nature of the biochemical upset following stroke, a prospective study was performed.

Materials and Methods: Retrospective Survey

All patients diagnosed as having either hemispheric or brainstem infarction type strokes (517) were selected and only those patients who had a history of overt diabetes mellitus for at least five years prior to their first stroke admission were used to define the incidence of diabetes mellitus in the infarction population. The criteria for overt diabetes mellitus used were one of:

- 1) use of insulin,
- 2) use of oral hypoglycemic agents,
- 3) use of a prescribed diet to control the diabetic state.

The incidence of overt diabetes mellitus in the stroke population studied was compared to the proportion of overt diabetics in Canada within the same age category. The above criteria were used by the Canadian Diabetic Association to define the diabetic population at large.

Another incidence figure was calculated by taking into further account all those patients in the infarction group not previously known to be diabetic but who on admission for stroke, exhibited fasting plasma glucose values greater than 115 mg./100 ml. and/or a two hour p.c. plasma glucose value that fell into abnormal ranges of the combined criteria of Fajans, Andres and Unger (available on request and from hereon referred to as FAU criteria).

Mean fasting plasma sugars were compared in overt diabetic patients with brainstem infarction and those with hemispheric infarction.

	Male	Mean Age (S.E.M.)	Female	Mean Age (S.E.M.)	Total Males & Females	Mean Age (S.E.M.)
#strokes with known overt diabetes	39	68.5 ± 1.8	19	76.4 ± 2.0	58	72.5 ± 1.9
#strokes with no known overt diabetes	241	68.0 ± 0.8	218	72.8 ± 0.8	459	70.4 ± 0.8
total	280		237		517	

Prospective Study

Careful selection of patients was necessary in order to make any statement about the exclusive effect of a stroke on biochemical homeostasis. Patients were not included in the study if they were known to have diabetes mellitus, uraemia, or if they were on any of the drugs known to affect carbohydrate metabolism.

Patients were administered a three hour glucose tolerance test (GTT) within seventy-two hours after the onset of the stroke, glucose load being seventy-five grams. Plasma glucose and insulin levels were sampled at fasting, one-half, one, two and three hour intervals. The same procedure was repeated on each patient two weeks after the stroke. Mean values for plasma glucose, insulin and insulin/glucose ratios were plotted at immediate and two week test periods, each patient thus acting as his own control, Group 1 graphs. Each of these three graphs are expressed in terms of area. Means of the areas were compared at the two test periods with bar graphs, Group 2 graphs.

Results

As shown in Table 1, 58 (11.2%) of 517 patients with brain infarction had known overt diabetes mellitus. The age range of this group was from forty-one to eighty-nine years. The incidence of overt diabetes mellitus in the Canadian population over fifty years of age for 1976 was 8.3%. There were significantly more overt diabetics in the infarction population at Sunnybrook between July, 1975

and December, 1977 than the Canadian population of 1976 in the same mean age category ($p < 0.05$). There were 29 (5.6%) of 517 infarction patients that did not have a history of diabetes but showed a fasting plasma glucose value greater than 115 mg./100 ml., and/or an abnormal two hour p.c. plasma glucose value according to the FAU criteria. These were categorized. Of the 517 patients with brain infarction 11.2% were overt diabetics with a previous history of the disease, 1.2% were probably diabetic for some time but only diagnosed as such secondary to admission for stroke, and 4.4% were borderline diabetics. Combining these, 16.8% of the 517 patients had an associated diabetic tendency at the time of the stroke. Eleven (19%) of the 58 overt diabetics had brainstem infarctions with a mean fasting plasma sugar of 195.6 ± 16.9 (S.E.M.) mg/100 ml. The rest (81%) had hemispheric infarctions with a mean fasting plasma sugar of 181.0 ± 11.1 (S.E.M.) mg./100 ml. There is a significantly higher mean fasting plasma sugar shortly after the stroke in patients with brainstem infarction than those with hemispheric infarction ($p < 0.001$).

Prospective Study

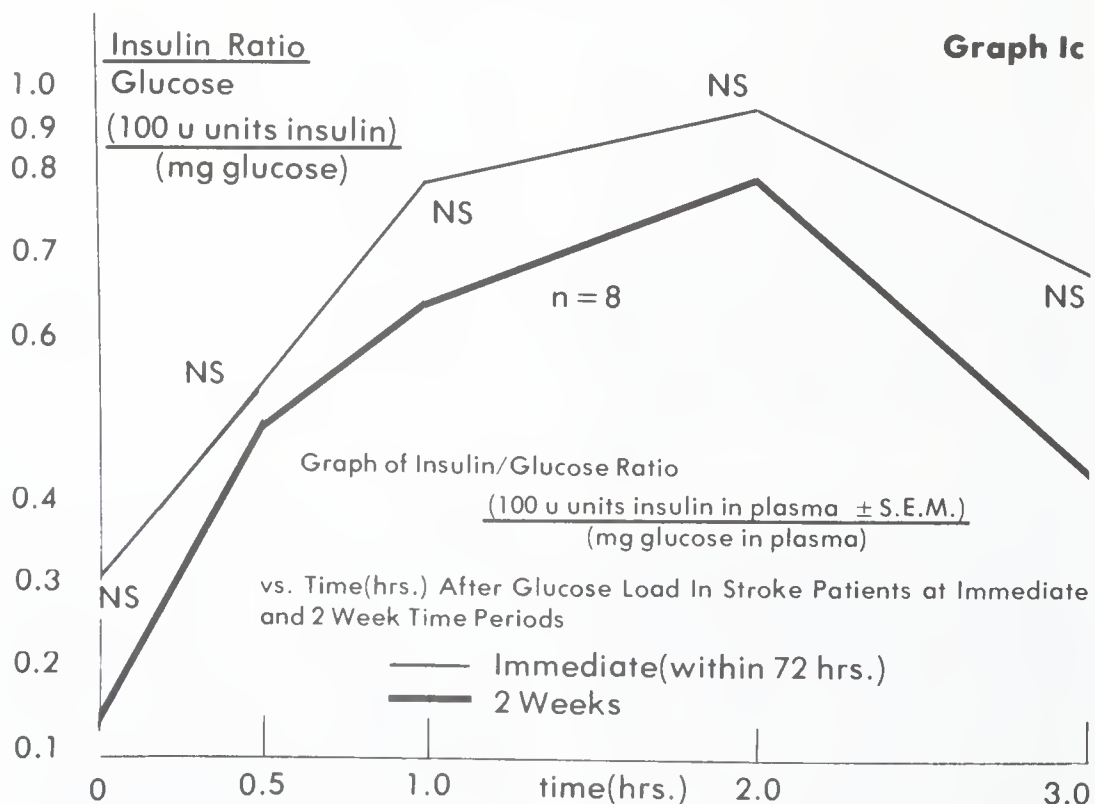
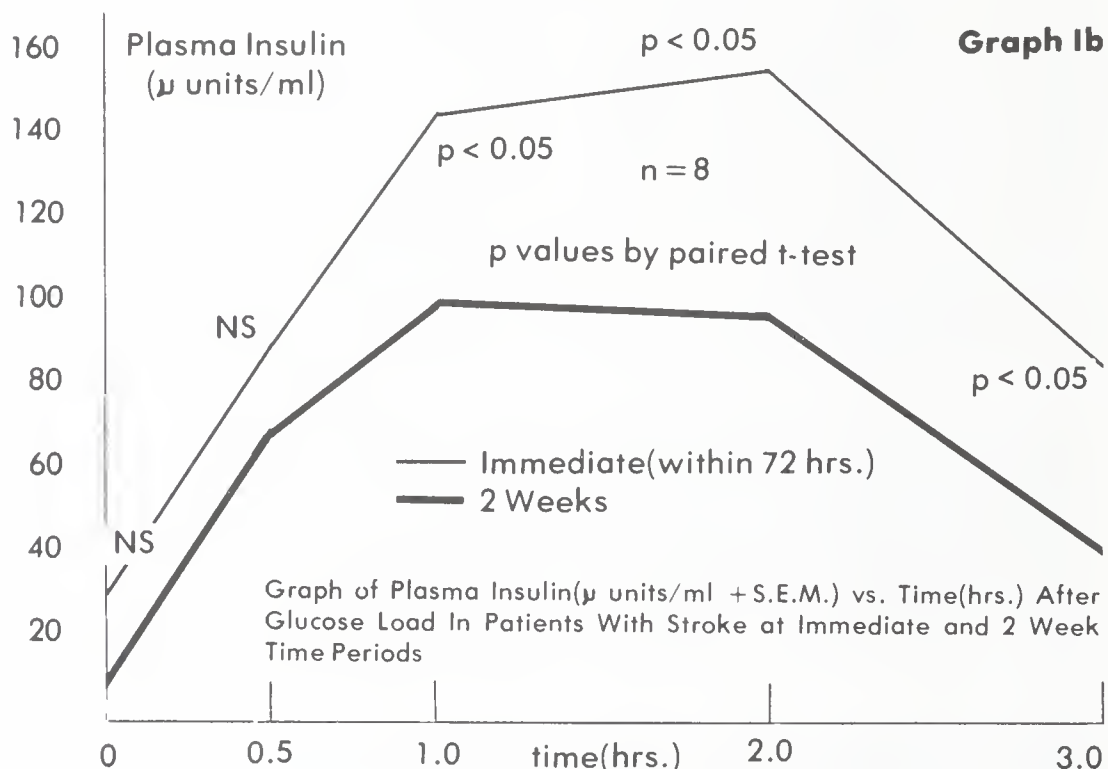
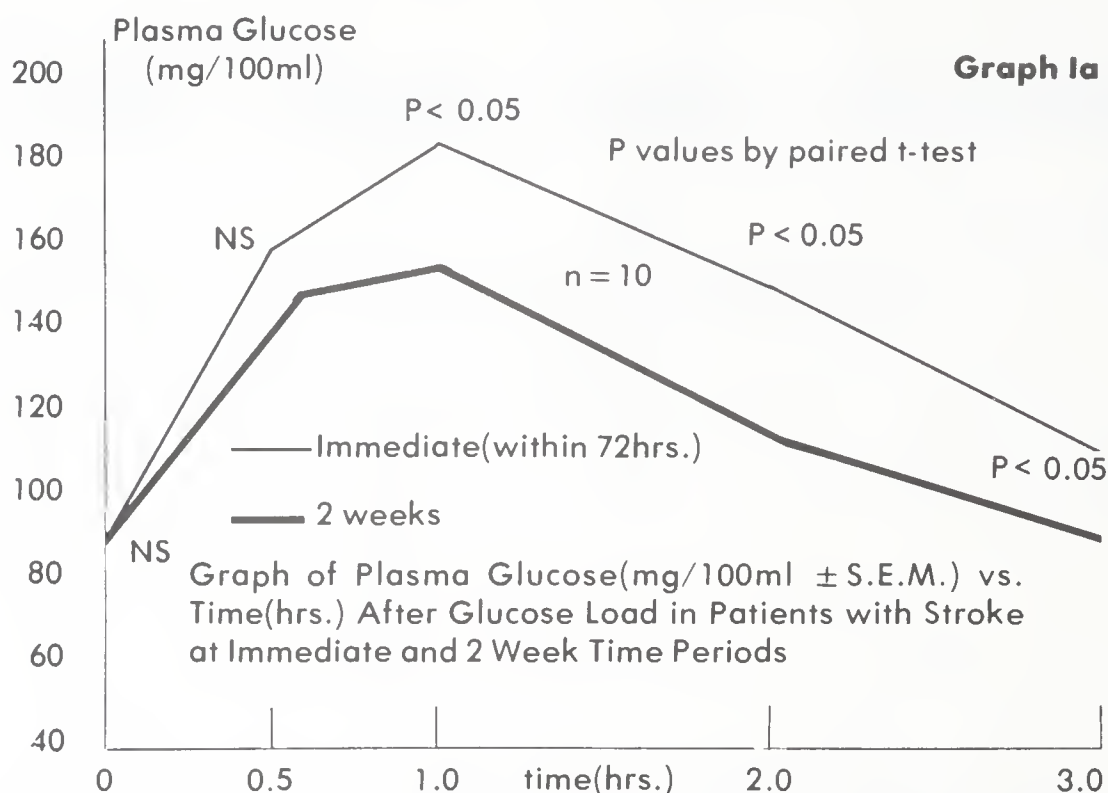
Twelve cases admitted to the Stroke Unit that met the required criteria were used for the study: seven had acute hemispheric infarctions, three had acute brainstem infarctions, one had an acute hemispheric infarction with a post-ictal seizure and one had a transient

ischemic attack. Seven of the stroke patients were women and five were men. Their ages ranged from forty-seven to ninety-two years with a mean of 73.8 ± 3.1 (S.E.M.) years. Graphs IIa-IIc show that the overall response to an oral glucose load (as measured by the area under the appropriate curve) is significantly higher during the immediate period than the two week time periods for all three profiles. Two patients out of the twelve exhibited higher glucose and insulin areas during the second week relative to the immediate period. The insulin/glucose area profile of one patient remained the same during both test periods but rose significantly for the other in the second week. Since these two subjects showed a response different from the others, they were excluded from all graphs and were considered as a persistent type of response. Both patients had hemispheric infarctions.

Discussion

The major considerations of this work are whether 1) the diabetic of longstanding duration is more prone to develop a stroke or 2) the stroke itself results in a diabetic state.

1) An inherent error in any retrospective study is to include normal, transiently affected individuals in the incidence figure when the criteria for selection involve abnormal glucose values shortly after the stroke. Without followup we could never determine whether 5.6% of the stroke population was becoming diabetic or had abnormal glucose values as a result of the stroke. This is



why the incidence of diabetes in the stroke population lies between 11.2% and 16.8%, the lower figure being significantly greater than the 8.3% incidence of diabetes in the population at large.

There are at least two large scale autopsy studies showing that brain infarction is more common in diabetics than controls. Another postmortem survey determined that diabetes was associated with an increased frequency and severity of cerebral atherosclerosis in all age groups. Since an absolute precedent for overt diabetes mellitus in the present retrospective survey was known existence of the disease for at least five years it is conceivable that associated cerebral atherosclerosis is one factor responsible for brain infarction. It is also pertinent to note that one of the autopsy studies showed no significant difference in the incidence of vascular disease in those with mild and those with moderately severe or severe diabetes determined clinically. Diabetic patients with diffuse angiopathy, neuropathy or no clinically observable complications exhibit increased platelet aggregation and likelihood of thrombus formation. This may be an additional factor leading to brain infarction in diabetic subjects.

2) Our finding that there is a significantly higher mean fasting plasma glucose soon after the stroke in overt diabetic patients with brainstem infarction compared to those with hemispheric infarction agrees with others. Brainstem infarction is a collective term used to describe the consequence of sufficient interruption of some or all vertebrobasilar circulation. The posterior circulation being affected, a local hypoglycemia of glucose sensitive neurons in the hypothalamus could occur. Reflex growth hormone discharge from the anterior pituitary takes place in response to hypoglycemia and a similar mechanism produces ACTH release. These two hormones act together in producing hyperglycemia: GH decreases the uptake and utilization of glucose by somatic cells and ACTH causes the release of glucocorticoids from the adrenal cortex that in turn stimulate gluconeogenesis. Nonspecific stresses can produce such hormone discharges but the degree of release

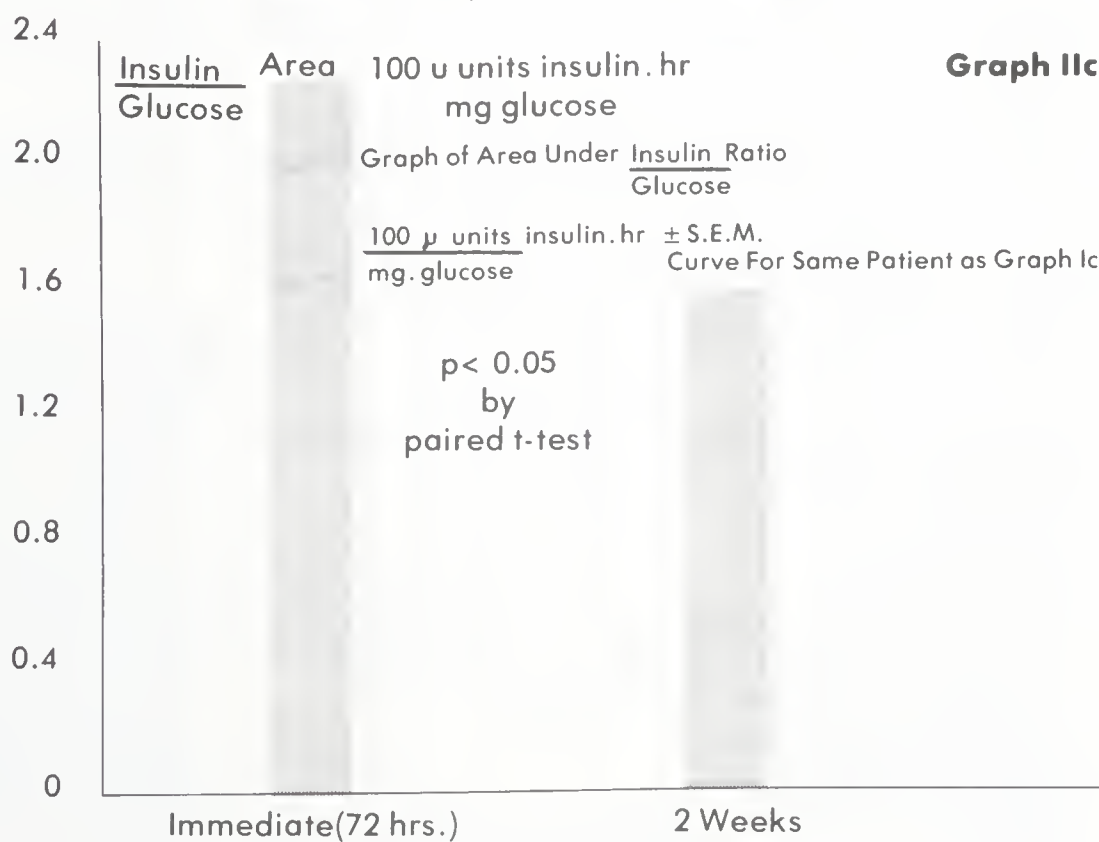
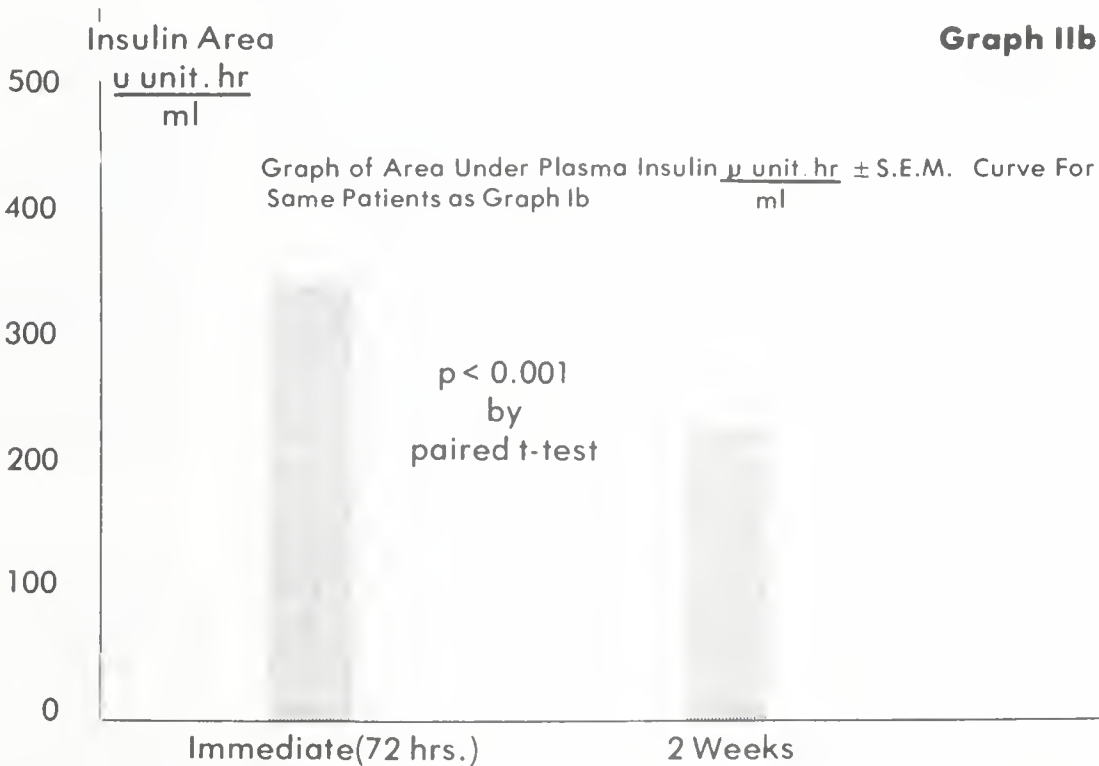
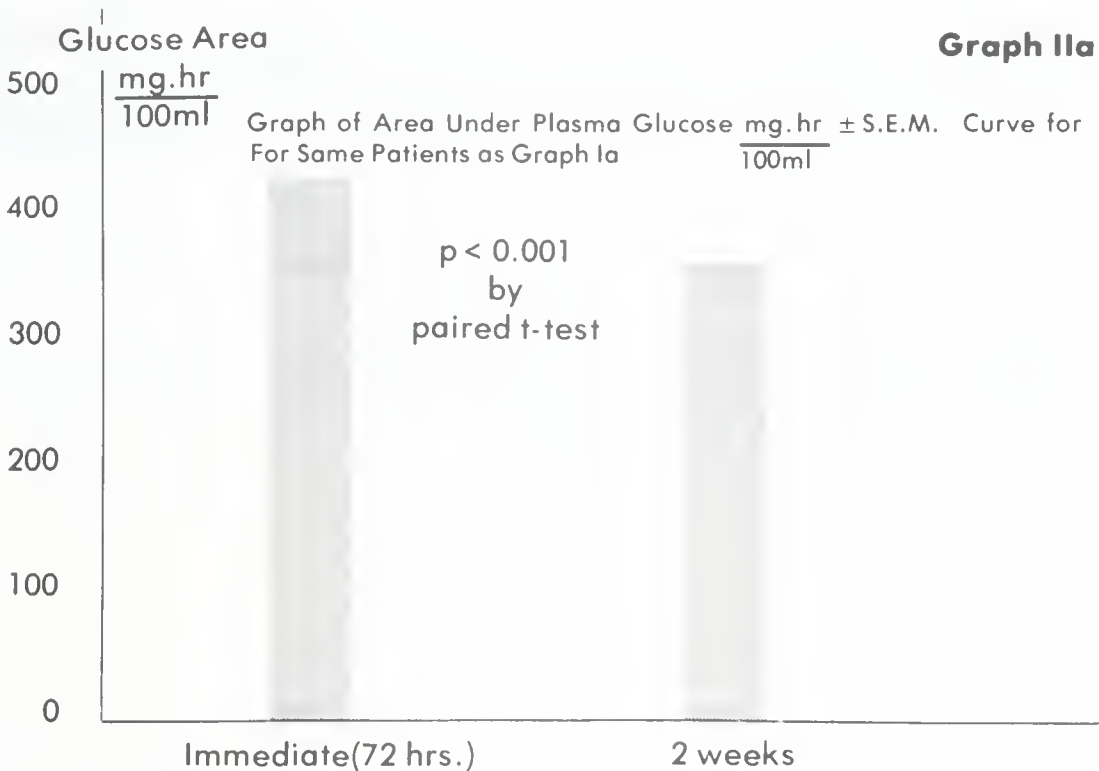
may not be as profound as that resulting from local hypoglycemia of glucose sensitive neurons.

That the stress resulting from stroke is altogether different from other injury remains enigmatic because postoperative hyperglycemia occurs in response to catecholamine-mediated suppression of insulin secretion. In other words, a blunted insulin response with hyperglycemia is found after a glucose load, this being different from the metabolism observed after stroke.

Graphs Ia)-c) and IIa)-c) indicate that non-diabetic patients having a stroke do not tolerate an oral glucose load within seventy-two hours compared with two weeks after the event has subsided. High levels of insulin with concurrent increased glucose concentrations is characteristic of an insulin resistant state. A large number of stimuli are known to mobilize GH in man. For example, surgery, electroconvulsive therapy, acute trauma, arterial puncture and automobile accidents will raise GH levels transiently. One effect relevant to the observed hyperinsulinemia is that GH restricts entry of glucose into muscle and fat cells. Increased circulating levels of glucose in the presence of GH will cause β -cell stimulation with insulin release when there is an intact pancreas. When GH secretion is stimulated by any of the above factors, more insulin will be required to allow entry of glucose into the somatic cells. Therefore, the insulin/glucose ratio will be elevated. Graphs Ic and IIc show that the insulin/glucose ratio is higher within seventy-two hours of the stroke as compared to two weeks later. If the insulin/glucose ratio is interpreted as a reflection of circulating diabetogenic hormones including GH, then it can be used as a stress index. The difference between the acute and two week insulin/glucose area profile (graph IIc) can be attributed to the stress of the stroke. The two patients with persistent type responses exemplify individual homeostatic responses--the type and chronology of the stroke are therefore important variables.

Growth hormone and insulin are only two hormones involved in the

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Word Of The Wise: 7T9 Looks Back

The Class of 7T9 was the one hundred and twenty second group of graduates from this medical faculty. They are, in a way, typical of classes from all years. Here were 250 unique individuals whose lives were funnelled through a common educational process and who all attained the same final goal: an M.D. degree. Medical school tends to impose conformity in thought and action on the people living through it. It moulds and shapes students into what someone somewhere considers ideal doctors should be like. There is decreasing time for outside activities as medical students progressively assimilate, becoming a part of "the system".

Fortunately, the process is not completely dehumanizing. At the end of four years, the graduates are similar in that they have survived a difficult and tempestuous period. They are drawn closer to each other through the appreciation of their common sacrifices and hardships. But they remain a group of *individuals* who happen to have a similar label. Their shared experiences have affected each one differently, and each one looks back at the years at medical school from his or her own unique perspective.

Last May, the Journal conducted a short informal survey among members of the graduating class to discover their views on their education, their school, their future and other related topics. While it was a hectic time of the year, we did get a good response and we now print a few of the comments that this group of individuals has left us as they rejoin the real world.

WHAT DO YOU REMEMBER THE MOST ABOUT MEDICAL SCHOOL?

- "getting accepted"
- "hard work"
- "a lot of pressure"
- "little support from faculty members at difficult times"
- "the last day of exams each year"
- "endless hours of lectures and lecturers"
- "writing too many exams"
- "Anatomy lab room 1162"
- "fear before getting the report card and relief after reading it"

WHAT DID YOU LIKE THE BEST AT MEDICAL SCHOOL?

- "time off"
- "clerkship"
- "two weeks of gynaecology service"
- "Daffydil"
- "Summer Scholarship"
- "jokes by clinicians"
- "electives"
- "pinball"
- "meeting people"

WHAT DID YOU LIKE THE LEAST AT MEDICAL SCHOOL?

- "intrusions on time off"
- "clerkship"
- "trying to stay awake during second and third year bedside clinics"
- "boring Pathology slides which made me see an optometrist"
- "exams"
- "Psychiatry and Behavioural Science"

WHAT ARE YOUR GENERAL IMPRESSIONS OF MEDICAL SCHOOL?

- "generally favourable but exams are a waste of everybody's time"
- "medicine is too demanding. It's almost impossible to maintain a well rounded perspective on life."
- "I had a good time but I got tired of incessant whining and complaining about marks and exams by a lot of fellow students."
- "Four years drifted away so quickly that I don't believe I'm going to be an M.D."
- "mostly enjoyable"
- "poor. Too much stress and anxiety was wasted on stupid exams. Much of the material taught was redundant and esoteric."

CAN YOU OFFER ANY ADVICE TO STUDENTS IN LOWER YEARS?

- “For four years you will be a frustrated, anxious, insecure and often bored person but you will still become an M.D.”
- “Switch to another University or drop out.”
- “Relax. Enjoy yourself while you can. Once you get in you have to be really stupid to be tossed out.”
- “Medicine is a survival game. Once you play the game well you are not yourself anymore. Your whole personality will be programmed to suit the training machine.”
- “Don’t worry about exams (ha!). Enjoy your free time as much as possible (it gets less and less).”
- “Don’t study any more than you have to.”
- “Grin and bear it.”
- “Do some clinical electives in the first three years (to keep in touch with reality.)”
- “Talk to senior students to help you get oriented and to make the best choices for hospital, specialties, etc.”

COMMENTS ON THE ADEQUACY OF YOUR MEDICAL TRAINING.

- “Fair. Too much academic emphasis. Program needs to be more practical.”
- “I generally feel pretty competent.”
- “It is what you put into it. I didn’t put that much into it.”
- “Well, at least you can’t say they spoonfeed you.”
- “Top standard for theoretical; average for practical skills.”
- “Very good.”
- “I don’t know.”

WHAT IS LACKING IN HEALTH CARE AS YOU SEE IT?

- “inability for M.D.s to consider other aspects of healing (i.e. losing sight of the forest for the trees).”
- “\$”
- “A good medicare system which will be efficient in spending taxpayers’ money and have reasonable flexibility for professionalism.”
- “Common sense.”
- “Not enough stress on lifestyle and environmentally induced diseases.”

ANYTHING ELSE?

- “Public has an unrealistic image of M.D.s as “superhuman”, overly dedicated, capable of working long hours.”
- “Doctors are a high income and highly visible group who make easy targets for any politician who wants to stir up public opinion.”
- “Don’t go into medicine if you want prestige, social status, financial security and a reasonable life from being an M.D. It’s just not so.”
- “Don’t let medicine make you into a false god. Be human above everything.”

Finally, in response to a question on future plans, the sample group was split almost evenly between family practice and some type of specialty.

The Journal would like to thank the clerks who found time to respond to this survey, in the unlikely event that they might one day lay eyes upon this article. Best of luck wherever you may be now. □

The Pain

Stand on the threshold of human despair.
Inside live the wretched seeking relief.
See them in ruins tht words can’t repair,
Trapped in their minds, they are trapped by their grief.

Eaten by agony seldom displayed
By moribund victims of known disease.
See by their torture the anguish cascade,
Worse than the suffering morphine relieves.

Hearts that are broken and cries that are dumb,
Chests that are heavy and eyes that are blurred,
Heads that are aching and limbs that are numb.
See the dead bodies and minds that once stirred.

We scorn them, we sneer, they’re crazy we shout.
What are the neurotics whining about?

Lynn McIntyre 8T0

The Origins Of Some Medical Words

Robert Hegele 8T1

Have you ever laid awake at night, wondering how such medical terms as “humerus”, “intermittent claudication” or “Huntington’s chorea” got their origin? Me neither. But for those of you who are interested in some of the less well-known stories behind the etymology of medical words in common use today, I have done some extensive research for this article, which hopefully you will find enlightening.

“Humerus”

The anatomical designation for the upper arm bone “humerus” is commonly attributed to Dementides, the court physician to the ancient Greek King Buffo in the Ninth Century B.C. One fine morning, the King ventured to the Aegean Sea to partake in his favourite pastime: anchovy fishing. After several fruitless hours of carefully skewering worms on to fishing hooks, then painstakingly dropping the hooks into the calm water and watching them slowly descend, King Buffo realized that he might actually catch something if he tried attaching the hooks to some fishing line and a rod. Seeing his error, the king flew into a fitful rage and, in midflight, fractured his right arm above the elbow. Upon returning to the palace, the King summoned Dementides and recounted the story of the injury to his arm. The physician remarked, “*Quello histori humerus*” (What a funny story”) and laughed to the point of convulsion. Unfortunately, the King did not share Dementides’ refined sense of humour and the court physician was subsequently skinned, deboned, ground up, spiced, packaged and sold to Turkish nomads in the form of 70 pounds of mixed cold cuts.

“Charcot Marie Tooth Syndrome” and “Intermittent Claudication”

One evening in late August of 1743, Claude Charcot, Mario Marie, and Henri “Buck” Tooth, three physicians at L’Institut Neurologique in Paris, got roaring drunk and thought it would be funny to write a paper about a bizarre, imaginary neurological disorder and submit it to the French Academy of Medical Science as a big joke. Much to their shock, the paper was taken seriously because it exactly described an existing well-recognized neurological problem which no one had previously thought to name. The three quacks (or In French “*quaques*”) became overnight celebrities and medical societies throughout France paid top franc for them to lecture on a topic which none of them understood. The condition was even named in their honour: the “Charcot-Marie-Tooth Syndrome.” Marie and Tooth could never forgive Charcot for getting his name first, and while they professed to remain the closest of friends, they were never on speaking terms, although Tooth would occasionally spit at Charcot. Within a year, Charcot mysteriously disappeared, never to be seen again. No one knows what happened to the body, but four years later his teeth were discovered in a pawnshop in Rouen.

Incidentally, Claude Charcot was the person who described Charcot’s intermittent claudication. Charcot himself had a peculiar gait due to an immense pain in his left leg from a peripheral arterial disease. He frequently had to stop walking and sometimes even tripped and fell, spilling his medical instruments. This generally got big laughs from his clinical associates who usually commented: “Claude, you clod.” Later, when anyone who was afflicted with this condition had a similar accident, he was said to have “pulled a Claude” or “engaged in claudication,” hence the origin of the present day term. Charcot developed quite a complex about this and actually gave up walking for a full year until someone told him this was impractical. As a compromise, he gave up walking on his left leg and hopped on his right for the rest of his life.

"Huntington's Chorea"

Lionel Huntington was said to be the greatest and most brilliant physician in Seventeenth Century England, although he was the only one to ever say so. He was also somewhat of an eccentric. His idea of a good time was to pour water on a table top and spend the afternoon watching it evaporate. This was slightly more fun for him than watching a plum turn into a prune. If he was really stuck for something to do, he would watch iron rusting. Once, he was arrested for smearing caramel sauce on a lady's bicycle seat. He also got a kick out of imitating a can of hair-spray, and frequently spit streams of nebulized drool into the hair of old ladies in Hyde Park.

Many of the great scientists of his age had much to say about him. Sir Isaac Newton, his next door neighbour, was frequently heard to say: "Gee, I wish he'd move. He gives the whole neighbourhood a bad name." When asked to comment on Huntington as a person, Robert Hooke, the noted physicist, remarked: "Yuk."

At the age of 53, Huntington published what many regard as the greatest paper of his career, quite a feat

considering he never went to school. In fact, he practised medicine with a licence which he won from a doctor while playing tiddlywinks for high stakes. Huntington's paper was about a retrospective study on 624 patients with cholera, but because of his lack of formal education, he misspelled "cholera" as "chorea." The rest of the paper had equally lousy spelling and was therefore completely unintelligible, but the Royal Society sensed the importance of what he was trying to say and awarded him the coveted Farnsworth medal, along with a \$50.00 gift certificate from Sears. By the time they had realized Huntington had meant to say "cholera" and not "chorea," he was in prison for orally blow-drying a woman's petticoats while they were still on the woman. The term "Huntington's chorea" has nevertheless persisted until today, while old Huntington himself fortunately has not.

Rob Hegele 8T1

Editor's Note: Any contributions of medical wit would be welcomed for publication on this page.

A Goodbye For Now

Buoyed by a single thought
Obsessed with a desire to understand the workings of
your mind
Like the blackbird and the sands of the fragile earth -
Scattered amongst time and the infinite thoughts of the
universe
Yet setting the pattern of your unpredictability
My concern stems from abstention - from you (as I know
you)
And from myself
A desire to grasp a dream and with but a wink from the
sun
To seal its fate in the unbounded vault
Have I lost you?
Or was I denied possession?
Not by you, but by the ranks of eager lovers scaling your
Tattered youth
Therefore I slap my own face by denying their existence
And thus denying my own
Worked through - an understanding
Not self-pity, but self-denial
Thank you
You have helped me realize again that I do not exist
In the realm of the soul
I now lay aside my obsession; please forgive me
Do not look back - the unfolding maze may be but a trap
To lead you to yourself
And then you shall stand with me

B.J. 8T1

In Search of a Way

To run in the night
From the death of a lie
I have no choice
But to forsake you my friend

To burn in the desert
In the hands of the wind
I have no choice
But to forsake myself

To mold from the sand, from the ashes, from the night
The frontispiece of the world
I have no choice
But to forsake humanity

B.J. 8T1

(continued from page 17)

and fibrin deposition in the atherosclerotic plaques. Investigations have shown that 71% of the patients with coronary artery occlusion showed thrombus formation in the plaques, whereas only 28% of the patients without coronar occlusion or significant degrees of stenosis showed any evidence of buried thrombus.

The role of platelets in thrombosis is well established, and demonstration of platelets in plaques implies that thrombus can be organized into the lesions during the development of atherosclerosis, but it does not have a bearing on the question as to whether plaques can develop as a result of mural thrombi deposition on the arterial intima. Studies on pulmonary embolization of experimental animals by artificial thrombi showed that fibro-lipid plaque formation can be induced. In systemic arteries, the whole sequence of fibromuscular plaque formation could be elicited in the iliac arteries of the pig where propagating thrombus has occurred in response to an abrasion of the aorta. In animals where circulating platelet levels have been reduced by antiplatelet antiserum, or by administration of the platelet inhibitor dipyridamole, production or raised lesions in the aorta following intimal injury and induction of fibromuscular proliferation have both been shown to be reduced. These data support the view that platelets play a role in thrombus formation and that incorporation of mural thrombus is

associated with a considerable degree of intimal hyperplasia.

Conclusion

To relate the known properties of the blood platelet to the pathogenesis of atherosclerosis, all processes associated with the initiation, amplification, and possible feedback deamplification mechanisms regulating the platelet release response have to be accounted for.

Interaction of a variety of systems with the blood platelets, namely the coagulation system, complement system and prostaglandin-arachidonate system-individually or concurrently could elicit important modulating effects. Recently, it was shown that thrombin mediated platelet aggregation and release of serotonin could be greatly amplified by the presence of complement components (C3, C5, C7, C8 and C9).

Platelet aggregation induced by aggregated IgG could be mediated through the activation of the first component of complement. Metabolites from prostaglandin endoperoxides of the vessel wall endothelial cells could also amplify or de-amplify platelet functions.

Platelets, once activated, could in turn release collagenases, elastases or vasopermeability factors that could elicit direct pathological damage to the vessel wall, thereby initiating further cycles of platelet reactions.

The dynamics of *in vivo* platelet function must be appreciated. As seen in experimental animals where

homeostasis was not maintained, incorporation of thrombi in an acute situation may occur quite rapidly. It has been postulated that human patients dying with a recent coronary artery occlusion may have acquired increased thrombotic tendencies throughout their arterial trees just prior to the terminal event.

In summary, although a variety of factors besides blood platelets are capable of inducing injuries to the blood vessel wall in the early phase of atherosclerosis development, blood platelets may have a role in the stimulation of smooth muscle growth in the developing plaques. Furthermore, platelet release mechanisms have been intimately related to the initiation, formation and propagation of mural thrombi deposition on the blood vessel wall.

Only physical and biochemical characterization of these various mediators can lead to a full understanding of the mechanisms of action on a molecular basis. Drug-induced modification of platelet release functions *in vivo* and studies with animals artificially depleted of certain mediator functions will offer valuable approaches to further investigate the interaction of platelets with their molecular milieu in pathological situations associated with the pathogenesis of atherosclerosis. □

Exhaustive references for this article are available on request.

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regulation of metabolic fuels. Other compounds are the catecholamine group, ACTH and glucagon. Levels of these change dramatically in response to stress reactions. Stress will set off countless positive and negative feedback loops geared to ensure survival of the species. Glucose intolerance and insulin resistance are only aspects of the biochemical disturbance evident after stroke. □

References

Extensive references available upon request.

(continued from page 9)

Both officials in the Ministry of Health and of all people, Michael Cassidy, leader of the provincial NDP, have warned of the inadvisability of forcing doctors into OHIP.

Yet there is angry public support in favor of mandatory OHIP membership. This could be expected when one suddenly has to pay something for what previously appeared to be 'free'. Some people have become accustomed to the benefits of a welfare state and take for granted health services, which are apparently free at the time of use. They would favour a system like the NHS. These people fail to associate steeply rising taxes, deficit financing, and inflation on one hand with the "free" benefits of medicare and other welfare programs on the other. The socialized medicine era has brought with it a new type of patient — one who feels that all is already paid for and therefore everyone has a right to the absolute best medical care available. What these people fail to realize, is that the best of anything always costs more; entitlement is not a one-way street and rights have to be earned.

Yet, in the end, the patients will be the ultimate losers. Patients will lose their individual choice of physician as the government will have to decide which medical centers serve which districts. The one-to-one doctor-patient relationship will become a relic, as the patient will have to see whichever doctor is on duty at the time. They will lose access to medical care, as government makes continuing cutbacks to hold costs down. This will result in waiting lists of months and even years for elective surgery and long line-ups in assembly line outpatient and emergency departments.

Because medical care will be "free", the genuinely sick people will have to compete with those who feel that they must "get their money's worth" by bringing any and all trivial problems to the doctor.

Physicians, once among the most productive members of society, will decide that life span shortening extra work is simply not worth it. This loss of productivity, plus the insatiable demand for health services and the

cost of the massive bureaucracy to administer it all will combine to drive taxes up further.

Finally, the health care system will lose because of the emigration of disgruntled doctors, who will take with themselves both the taxpayers' investment in their education and the expertise of years of practical experience.

There are those who claim that the medically indigent will suffer if opting out continues. To this I can only answer that it is morally, ethically and **legally** wrong for a doctor to refuse to treat a patient who cannot pay. Physicians have taken pride in doing so for centuries. It only remains for the patient to privately identify his difficulties to the opted-out doctor, who will accept OHIP payment as full payment.

But, civil libertarians will say, this would mean that the government would have to identify low income earners, welfare recipients and the elderly, who receive premium-free or subsidized health insurance, causing both stigmatization of such people as well as breach of confidentiality of this information. In fact, welfare recipients and senior citizens are already identified in numerous ways, among which are: senior citizens identification cards, low income housing and Drug-Benefit Plan cards. It does not appear to be having any serious consequences up to this time. The availability of such 'secret' information to movie theatres, bus drivers, pharmacists, etc. seems to be working to the recipients' advantage. Identifying one's need in order to receive legal aid appears to be quite acceptable.

There is no painless way of paying for health services. In the United States, where most health insurance is funded totally by premiums, the employer is paying a larger percentage of the bill. General Motors reportedly pays \$1,800 a year in premiums for each employee, and recovers the cost by adding \$300 to the price of every car. Even in Sweden, the government has realized that private input is required to keep the health service afloat. Patients now pay a direct charge of \$8 for each office visit, \$12 for a house call, \$3.80 for each day in hospital.

Numerous committees, including

the Taylor Committee, OMA and Ontario Hospital Association have studied our system in great depth and have all recommended to the government that the infusion of private funds, in the form of some type of user fees, be introduced, both to directly finance the program and to give patients some perception that health care costs money and must be utilized wisely. The physicians of Ontario have responded by opting out and pressing for balance-billing as is currently the case in Saskatchewan, Alberta, Nova Scotia and New Brunswick. It is my hope that the politicians of Ontario realize that without private money, our health care system threatens to either bankrupt the province or to suffer the fate of the British NHS.

In this paper, I hope that I have been able to shed some light on the current dissatisfaction expressed by the medical profession with the Ontario Health Insurance Plan and Medicare in Ontario.

I cannot emphasize enough how important it is that we, the future physicians of this country, at least be aware of these current controversies, even if there is disagreement with the opinions expressed.

Firstly, like it or not, we are representatives of the profession in the eyes of the public. As such we should be prepared to answer accusations with facts, misconceptions with truth. If you haven't already been cornered by some friend or relative, I can assure you that in the very near future someone will be asking your opinion on medicare, Doctor's incomes, etc. We can no longer keep our heads buried in the proverbial sand under the guise of "professionalism."

Secondly, we, as a profession must learn to communicate more effectively with each other and present some form of organized front if we are to influence legislators. The tides of socialism are shifting continually in our country and we must be prepared to take a voice in policy matters affecting our autonomy and the quality of medical care.

Lastly I hope the material presented here will help those of us soon beginning practice to make

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Each year a number of our supporters donate an amount well above and beyond the mere subscription rate. For their generous financial support [with its consequent psychological boost] we would like to extend our sincere thanks to the following individuals:

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decisions regarding how and by whom we will be paid. I would strongly recommend that we all keep our options open by obtaining and maintaining an American license upon graduation in addition to the LMCC's. □

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